



# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

## THESIS

**OUTCOMES-BALANCED FRAMEWORK  
FOR EMERGENCY MANAGEMENT:  
A PREDICTIVE MODEL FOR PREPAREDNESS**

by

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September 2013

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A PREDICTIVE MODEL FOR PREPAREDNESS**

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## **ABSTRACT**

The homeland security community has struggled with a unifying system to support national preparedness even though states and local jurisdictions have gone to great lengths to enhance their capability. State preparedness reports, with inconsistent ranking systems and measurement tools that are self-assessments of individual capabilities, lack a holistic connection. The literature suggests that a one-size-fits-all assessment system has limited comparative value and has not proven to answer to the unique risks each state faces. By looking at the risk posture in each state and the unique capability needs, a model emerges that includes existing quantitative information and combines it with qualitative efforts sustained in emergency management. This research will introduce a predictive model that balances value-added inputs with intended results enhanced by leadership, with the organizational processes and performance outputs enhanced by management, into a system that delivers the outcomes intended with preparedness and further comparing it with current policy on national preparedness. With the demand by Congress to reconcile the treasury spent on homeland security, emergency management must find a system that balances both the measureable outputs *and* anecdotal impacts of preparedness that will guide each state toward improvement of its effort and secure strategies for future investments.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

9/11	September 11, 2001
BSC	Balanced Scorecard
CAS	Comprehensive Assessment System
CBP	Capabilities-Based Planning
CC	Core Capabilities
CST	Civil Support Team
C2C	Cost to Capability
DHS	Department of Homeland Security
DoD	Department of Defense
DoN	Department of Navy
EMAC	Emergency Management Assistance Compact
EMAP	Emergency Management Accreditation Program
FEMA	Federal Emergency Management Agency
GAO	Government Accountability Office
GAP	Cap Analysis Program
GRT	Grants Reporting Tool
HSAC	Homeland Security Advisory Council
HSPD-5	Homeland Security Presidential Directive 5
HSPD-8	Homeland Security Presidential Directive 8
HSS	Homeland Security Strategy
ICS	Incident Command System
LCAT	Logistics Capability Assessment Tool
METL	Mission Essential Task List
NFPA	National Fire Protection Association
NG	National Guard
NIC	National Integration Center
NIMS	National Incident Management System
NIMSCAST	National Incident Management System Compliance Assistance Tool
NIPP	National Infrastructure Protection Plan

NLE	National Level Exercise
NPD	National Preparedness Directorate
NPG	National Preparedness Goal
NPS	National Preparedness System
NRF	National Response Framework
NRP	National Response Plan
OBF	Outcomes-Balanced Framework
PKEMRA	Post Katrina Emergency Management Reform Act
PPD-8	Presidential Policy Directive 8
QHSR	Quadrennial Homeland Security Review
SME	Subject Matter Expert
SPRS	State Preparedness Reporting System
TCL	Target Capabilities List
THIRA	Threat and Hazard Identification and Risk Assessment
TQM	Total Quality Management
UTL	Universal Task List



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German philosopher Friedrich Nietzsche said, “What does not kill you, makes you stronger.” While arguable in the world of philosophy, it has profound meaning to me as it relates to developing this thesis. It was a difficult and time-consuming journey, one laden with doubt and discovery, but one that has better prepared me personally for the road ahead. I found it interesting that the delay in finishing this thesis of almost a year and a half after leaving the program had a silver lining. That period allowed for the Presidential Policy Directive 8 on national preparedness to play out and strengthen my final conclusions and the recommendations that I offer.

I would like to thank my amazing wife, Sue, for her support for my journey while working on her own educational goals, and for keeping me grounded in family during the many hours spent in my research world. I would also like to thank my thesis advisors, Sam and Glen, for the knowledge and wisdom they have provided—each having a unique perspective on the subject matter and collectively having the faith that I would finish. I owe much of the person I am to my devoted parents, Otto and Joan, who have been an inspiration and an example of strength under adversity, using life’s experiences to become better prepared for the future. I give credit and thanks to several of my cohorts in 1001/1002 for their words of encouragement through the months since we were last on campus.

I would like to share the personal lesson that I have learned the hard way in an attempt to help others avoid finishing a degree in the same way that I did; that is, to avoid moving from a long-term profession to a new career, moving from a local department administrator to directing a statewide agency. The transition experienced had vastly increased the complexity of the thesis and greatly diminished the chances of finishing; while acclimating to the new position and responsibilities, the realization became evident that the previous proposal required a major overhaul. Even with the delay, this truly has been a journey worth traveling, especially in light of my new career in emergency management. I have often felt that nothing worthwhile is ever easy; it is certainly true of my research and thesis journey.

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## **I. INTRODUCTION—DEFINING THE PROBLEM**

### **A. BACKGROUND**

The nation had awakenings from two different national disasters—the terrorist attack of September 11, 2001 (9/11), and the natural disaster in Hurricane Katrina in 2005. With the asymmetrical threat of terrorism, reconfirmed by the disastrous events during Hurricane Katrina, the nation has focused on preparedness. Many federal dollars have been infused into states to build capability to respond to disasters, reduce risk, and mitigate consequences. At the same time, the Department of Homeland Security (DHS) has struggled to find a unifying doctrine and system to support a national preparedness effort, even though states and local jurisdictions have gone to great lengths to enhance preparedness.

The nation is significantly better prepared than it was on 9/11—there is significant anecdotal data, unique to the nation’s jurisdictions, to support this premise (Task Force, 2010, p. x). To quantify response preparedness, the Federal Emergency Management Agency (FEMA) has been developing methods of assessment; however, the delivery of an objective system of performance measurement has been challenging. This challenge stems from differing levels of perceived risk across the country and statewide assessments that lack uniformity, resulting in slow development of a standardized, quantitative system for measuring risk. States and local jurisdictions have made significant strides in buying down risk by planning, partnering, and developing capability for the emergency management mission, even though FEMA has struggled with a national standard to show this progress. W. Craig Fugate, current FEMA Administrator, concedes that “it is easy to measure a process, but it is quite another thing to measure how that process has positively impacted a family or community” (2010, p. 7).

### **B. PROBLEM STATEMENT**

Since 2002, federal homeland security grant funding to states has been in place to support homeland defense and security preparedness. Many local, state, federal, and military reports have been issued, and legislative hearings have attempted to define the preparedness question: “Are we better prepared than we were before 9/11?” These reports

have limited value other than to define the problem, and the measurement tools introduced by FEMA have simply been self-assessments of capabilities that have been retrospectively funded. Other than an actual event, only in full-scale, multi-agency, multi-discipline exercises does one gain a glimpse of the preparedness progress. These exercises are costly to run, and they are arguably of little value when the players know the schedule of events in advance (Phillips, 2006).

With over \$37 billion appropriated (Congressional Research Service, 2009 and 2010) to support homeland security programs for states and localities, there is little evidence to support that homeland security grants have had any measurable impact. With the exception of a few states, the grant programs have instead facilitated equipment upgrades for many public safety agencies in resource-strapped communities that have done little in the way of strategic planning, regional capability, and capacity development. Since peaking in 2003, homeland security grant programs have continued to recede (CanagaRetna et al., 2008, p. 53), although many interested parties advocate a substantial increase in federal funding. The current state of the U.S. economy would indicate that federal homeland security funding will decrease much further. As a result, a new approach for building response capability and measuring outcomes is necessary if the national government is to continue to lead the preparedness effort. Similarly, funding at the state and local levels has never been more under pressure, so all levels of government must explore alternative means for building and sustaining capacities.

At this same time, the country faces threats every day from natural disasters, technological incidents, and terrorist attacks. Many regional disasters have national significance due to the interconnectedness of our society. Experts assert that the nation continues to be ill-prepared to respond effectively, and the responsibility to protect against such upheavals has fallen upon individual states (CanagaRetna et al., 2008, p. 53). For example, Wisconsin has two such state-level, resilience-building cooperative agreements that were not federally initiated. The first is the Mutual Aid Box Alarm System (MABAS), which is a fire service-to-fire service cooperative agreement with Illinois, and the second is a cooperative emergency management agreement, which was based on executive orders from the governors of Wisconsin and Minnesota. *“With the future of homeland security funding uncertain, states must adopt a revised system for*

*development, sustainment and assessment of an emergency management enterprise to meet these challenges and build a resilient statewide vision [emphasis added]*” (DHS, 2012, p. 51).

## **1. Contemporary Approach**

Capabilities-based planning (CBP) was first introduced by the Department of Defense (DoD) in the 1990s at the national level and has served the emergency management mission space well. This planning approach provided methods that allowed for deliberate considerations under uncertainty (Larson et al., 2001, p. 16). In the wake of 9/11, it provided a means of protection that would be suitable for a wide range of modern-day challenges and circumstances, while working within an economic framework. The approach was a contrast to the military’s previous Cold War strategy of developing reactive responses to specific threats and scenarios. A strategy based on CBP served the emergency management mission space by providing the tools and benchmarks necessary to meet the challenges of an all-hazards emergency response or the asymmetrical terrorist threat (Larson et al., 2001, p. 9).

To support these benchmarks, the DHS identified 37 target capabilities necessary to respond effectively to disasters (DHS, 2007b, p. iii). The target capabilities were intended to develop “a nation prepared with coordinated capabilities to prevent, protect against, respond to, and recover from all hazards in a way that balances risk with resources and need” (DHS, 2007b, p. v). The DHS also developed 15 high consequence planning scenarios designed to focus contingency planning on preparedness work at all levels of government and with the private sector (DHS, 2007a, p. iii). In 2011, the Obama Administration introduced Presidential Policy Directive 8 (PPD-8), which establishes 31 core capabilities that, if achieved, would prepare the nation for specific types of incidents.

## **2. Problems with Status Quo**

There are few quantifiable methods that have been developed so far to answer the effectiveness of preparedness in different jurisdictions and situations. There is no single quantitative method to assess preparedness, readiness, and capability—there are specific risks and cultures in each region that enter into the equation. To date, the capability

assessment systems proposed and in place have focused on a quantitative methodology to examine capabilities. The literature reveals inherent problems with metric-based methodology or self-assessment systems. Furthermore, too much emphasis has been placed on the individual capability and not enough on what impact is produced by a series of capabilities, working in concert, during a major disaster to accomplish an operational need.

Many states outline a homeland security strategy that is heavily weighted on capabilities building. This approach aims to take a long-term, comprehensive approach toward accomplishing priorities in homeland security through prioritizing goals, measuring improvement in capability, and tracking progress (Wisconsin Homeland Security Council 2009, p. 3). A strategy of CBP, however, lacks outcomes-based metrics for measuring progress toward interdisciplinary emergency management performance and, ultimately, the intended impacts necessary for response to a major event. The metrics should lead to an intended outcome derived from the capability(s), the method for deployment, and the lead time necessary to put the capability into the arena of need—in short, what the emergency management agency is trying to achieve for its citizens. With no verifiable method of determining outcomes in advance of a disaster, questions exist about how individually planned and developed capabilities will manifest themselves during an actual disaster with other responders given the individual context of planning and capability building.

A key missing function of CBP is the identification the capability gaps in preparedness as they relate holistically, specifically those “all-hands” capabilities necessary to build the resilient emergency management framework. The critical strands in a holistic emergency management helix are:

- Capacity sufficiently adaptable to meet a state’s risk environment;
- Prevention and mitigation before an event;
- Sufficiency of operational capability, capacity, and readiness to respond;
- Speed of protection measures during an event; and

- Interoperability of operational resources to resolve the event.

This is accomplished by identifying, reducing, and eliminating the gaps that hinder a unified response. With a unifying strategy that provides goals and objectives to address those gaps, the intended requirements, standards, performance measures, actual response, and short-term recovery capabilities will be realized (FEMA, 2009a, p. 3). PPD-8, through the National Preparedness Goal (NPG), calls for the “capacity for the organized commitment of the whole community, in the shortest possible time and under all conditions” to meet the threats that pose the greatest risk to the Nation (DHS, 2011a, p. 1). To meet the NPG, a unifying strategy within an emergency management framework must accompany that goal. Each state must find its individual definition of the goals and develop a strategy to accomplish them.

The prevailing literature seeks quantitative ways to measure performance; however, the literature for the most part concedes that a measurement of outcomes is difficult and elusive (GAO, 2009, p. 69, Nelson, Lurie, & Wasserman, 2007, p. 10, Covington & Simpson, 2006, p. 3). Resources can be inventoried, personnel can be qualified, capability can be observed, but less tangible qualities that support outcomes, such as leadership and education, can only provide insights into preparedness (RAND, 2008, p. vii)—as attributes that can predict success. Response outcomes are measured in the lives and property protected; the impact on social, political, environmental, and economic systems; and the resiliency of the community to adapt to the new normal in the aftermath. The quantitative efforts to measure capabilities alone do not address these preparedness goals. The response construct must exhibit the capacity and coordination necessary for large-scale disaster responses, and possess interoperability, cooperativeness, and collective action toward these outcomes.

There is a need for a model that addresses the quantitative and qualitative capacities that have been developed since 9/11. A Congressional panel recommends that FEMA use both quantitative and qualitative information to more effectively capture outcomes based on grant distributions (NAPA, 2011, p. xii). The Obama Administration came into office recognizing the significant progress that had been made in improving the nation’s preparedness since September 2001 and is cognizant of the need to better understand and explain that progress—both qualitatively and quantitatively (Manning,

2012). To meet this need, a model is called for with a balanced approach that can be adapted for emergency management; one that possesses uniformity of time-tested inputs and processes, strategies, and smart practices, and that achieves outputs that are measurable *and* delivers the positive impacts we anecdotally know exist. This model would be a reasonable predictor of strategic success and could deliver the reliability of security and resilience outcomes the nation is seeking, instead of continuing down a quantitative-only journey to an end that does not completely provide a pathway to real preparedness.

## **C. RESEARCH QUESTIONS**

### **1. Primary Questions**

With the emphasis by Congress on homeland security performance, what benchmarks currently exist in emergency management for measuring outputs and impacts that indicate the level of preparedness of the nation?

Can the balanced scorecard model be modified to improve a state government's ability to measure and improve the effectiveness of emergency management investments?

How would it compare to the guidelines found in Presidential Policy Directive 8?

### **2. Secondary Research Question**

What performance outcomes should emergency management strive for, and what is a preferred strategy for achieving those outcomes?

## **D. SIGNIFICANCE OF THE RESEARCH**

Many organizations, including government entities, spend many staff hours and dollars on capability-building and strategic planning only to let that capital and human investment go to waste by failing to focus these efforts on the outcomes they are intended to deliver. This assertion is supported by the number of state homeland security strategies and emergency response plans on file. A strategic plan is necessary to bring these investments together for the purpose of reducing risk; it should offer a roadmap that considers tangible inputs, such as equipment and funding, and combines it with intangible assets, such as expertise, leadership, and innovation, into a collective "go forward" plan.



FEMA has invested considerable time working on a national system to assess the level of preparedness since 9/11. So far, that national benchmark has yet to be fully defined. With the first National Preparedness Report scheduled for delivery in March 2013, will the Threat and Hazard Identification and Risk Assessment (THIRA) and State Preparedness Report (SPR) deliverables identified in PPD-8 provide a statement on national preparedness? Will the report provide a framework for strategic success at the state and local level?

## **1. The Research Direction**

An Outcomes-Balanced Framework (OBF) should instead be considered. It provides an interrelated framework to align the four focus areas of emergency management (inputs, processes, outputs, and impacts) with strategy—a strategy that pursues an emergency management vision of disaster resilience for communities and achieves stakeholder value, and at the same time provides an assessment of performance. In the framework proposed here, an argument is made that individual qualifications and assets gained are measurable outputs, and impacts are a combination of immeasurable conditions found in observation and local definition of achievement. Furthermore, the author will argue that management produces these measurable outputs and that leadership produces the anecdotal evidence of positive results that are not yet explained. With the uncertainties of future federal assistance, states must look to a system to develop, sustain, and assess whether the emergency management enterprise is meeting the resilient statewide vision and providing value to its citizens. The framework provides a mechanism that assures alignment of inputs, processes, outputs, and impacts into a system that emergency management can use to prospectively assess and predict success in meeting those goals.

## **2. Chapters Ahead**

With over a decade since 9/11, a major transformation has taken place in the United States and beyond. Congress has demanded reconciliation and review of the significant treasury and effort by many professionals to answer the preparedness question: “Are we better prepared as a country than before 9/11?” The question posed by

Congress provides the impetus for exploring the question. Thus, far, the literature presented has provided background and the problem statement, and the research questions provide the purpose and significance for moving ahead with the research project.

In the chapters ahead, the literature review will provide an overview of the existing federally-advocated approaches to preparedness and performance measurement, and then contrast it with that used by the private sector. The review will also look at the historic success of each approach, and an analysis will be drawn of the outcomes delivery. This initial analysis will suggest a hypothesis that will be proven or otherwise be modified based on the research methodology. In Section II, the author will take a deeper dive into the planning and assessment models established pre- and post-9/11 used to prepare the nation for terrorist attacks, technological hazards and disasters caused by nature. Again a comparison and contrast will be made with private sector performance assessment systems to find successes that could be applied to the national preparedness posture. Previous research by homeland security professionals suggests that a private sector performance system, called the Balanced Scorecard, merits further evaluation.

From the literature on assessment systems, both governmental and business, Section III will explore the goal of preparedness: outcomes that support state-specific and national resilience. Based on the preparedness question and an outcomes end state, a model will begin to emerge using an outcomes logic model revealed in the research. The essential components of the outcomes logic model are inputs, processes, outputs, and impacts, and the value of each component to the end state of outcomes delivery. These essential components will be further fleshed out using successes that are anecdotally known to be effective in emergency management and homeland security. Reaching back to the Balanced Scorecard as an assessment and performance system and combining it with the outcomes logic model, a framework emerges that may answer the national preparedness question.

The new framework becomes a predictive model to assess statewide preparedness and has the potential to provide a national view of preparedness in the aggregation that is based on the state perspective of risk and its available capacity to meet the risk. The conventional assessment of quantitative analyses of the enterprise must be balanced with

an equally rigorous qualitative assessment, as well; management activities and outputs achieved are equally balanced with emergent and collaborative leadership and the impacts it delivers during a disastrous event and toward the purposeful accomplishment of statewide preparedness. The framework also includes the importance and reliance on strategy as a state's overarching methodology to realize its role in the national preparedness vision. The research concludes by exploring the utility of the synthesized Outcomes-Balanced Framework by drawing a direct comparison to the latest Presidential Policy Directive 8 on national preparedness. The research concludes with an assessment and contrast between the current policy and the proposed framework.

## **E. LITERATURE REVIEW**

The literature review will provide a background for the current picture of preparedness in emergency management, specifically planning and building on capabilities. Capabilities-based planning (CBP), which started with the military with the 1990s, served DHS well in the early years following 9/11; however, a method was missing that arranges all the developed capabilities into a unifying response that resolves the consequences of a disaster. The literature also provides a foundation for the difficulty in answering the nation's preparedness questions about how well prepared we are as a nation, and how improvement would be accomplished, if needed, and explained. FEMA has developed several assessment systems, although most are based primarily on subjective self-assessments. The literature suggests a missing element in these assessment systems, that of achieving outcomes supporting the resilience of a community. Resilience is often referred to, but rarely defined and measured quantitatively.

### **1. Federal Guidance**

The federal government, through DHS, provides a compelling need for developing emergency response preparedness and protecting the nation from disasters that impact our communities. The Homeland Security Presidential Directive (HSPD) 5 policy directs the Secretary of the DHS to provide assistance to state and local governments and to develop all-hazards plans and capabilities (The White House, 2003a, p. 2). The HSPD-8 established a national policy to strengthen the United States to

prevent, protect against, respond to, and recover from terrorist attacks, major disasters, and other emergencies (The White House, 2003b). The term, “capability,” is ill-defined throughout homeland security literature. Insofar as this research is concerned, capabilities are defined as the ability to execute specified courses of action defined by an operational user, expressed in broad operational terms, and based on a set of tasks and performance standards (McChrystal, 2009, p. 22).

The military utilizes a set of capability documents called the Mission Essential Task List (METL). A METL contains the list of a command’s essential tasks with appropriate conditions and performance standards to assure successful mission accomplishment (DoD, 2005, p. 2). Similarly, to support the preparedness goals, DHS has developed the Universal Task List (UTL) containing 1600 unique preparedness and capability tasks that support the Target Capabilities List (TCL). The TCL contains 37 core competencies designed as a guide for preparedness for a broad range of terrorism attacks and all-hazards response events (TCL, 2007, p. iii). These two documents form the basis for assessing emergency response preparedness and the development of mission outcomes at all levels of government (TCL, 2007, p. 1).

Seven National Preparedness Goals emerged from HSPD-8 that was essential for emergency response and management of disasters. In January 2008, the DHS released the National Response Framework (NRF), the successor to the National Response Plan (NRP). The NRF establishes a comprehensive, national, all-hazards approach to domestic incident response, and incorporated many NRP elements along with lessons learned from the original plan. The new NRF provides guidance for the integration of community, state, tribal, and federal response efforts (NPD, 2007). Starting with the 2007 National Strategy for Homeland Security, resilience has become a focus for preparedness, and the NRF forms the basis and impetus for the development of resilience as an outcome; however, the definition was lacking. For the purpose of this research, a definition of resilience offered is to absorb, contain, adapt, and effectively recover from a major disturbance or an unexpected negative event to a point where a newly-formed sense of equilibrium and certainty returns. Within a comprehensive emergency management system, the true measure of the effectiveness of a “resilience system” during a negative event is the length of time endured between those two points.

The 2007 National Preparedness Directorate (NPD) was established to guide coordination and development of strategies necessary to provide a comprehensive cycle of planning and preparedness for all-hazards. As part of this mission, NPD developed the NPG outlining four critical elements of the core preparedness vision; specifically, the planning scenarios aimed at high-consequence events, identifying universal tasks to facilitate prevention, protection, response, and recovery efforts, and specific target capabilities that are necessary for an effective response to a disaster (NPG, 2007, p. 1).

The literature contains considerable doctrine on CBP, especially within the private sector and the military. Taking off in 2005, homeland security professionals have begun to embrace CBP as a mechanism to meet the challenges caused by terrorism and natural and man-made disasters. The National Preparedness vision calls for coordinated capabilities to prevent, protect, respond, and recover from all hazards to balancing risk with resources and need (NPG, 2007, p. 1). The literature thus far continues to base the preparedness strategy and performance on capabilities, the development of which enhance preparedness, response, and recovery system and lead to the resilience of the nation (TISP, 2010, p. 9).

The DHS has adopted the military model of CBP and has begun to link capabilities typically called for in disasters to outcomes in the five mission areas of prevention, protection, mitigation, response, and recovery. The military, conversely, emphasizes the need to link the objectives at all levels of war—from the national political level down to tactical and task level—in a logical, causal chain. This outcome-based or strategy-to-task approach became the de facto basis of planning doctrine (Hunerwadel, 2006). While significant progress has been made developing capabilities, FEMA has still made only limited progress in assessing (GAO, 2010, p. 14) and linking them together. The DHS and FEMA would benefit from adopting a similar strategy-to-outcome approach framework that can be adapted to the challenges that exist with a top-down plan in the civilian environment.

With a renewed focus on strengthening the security, preparedness, and resilience of the nation, the Obama Administration has re-established HSPD-8 to the PPD-8. The new directive established an NPG, which identifies *core capabilities* [emphasis added] that address the specific types of incidents that pose the greatest risk to the nation

(FEMA, 2011a, p. 8). The NPG calls for a secure and resilient Nation by including the capacity of an organized commitment of the whole community, in the shortest possible time under all conditions, to successfully prevent, protect, mitigate, respond, or recover from the these major disasters (FEMA, 2011, p. 1). The PPD-8 identifies the necessary performance objectives; however, it continues to be absent of the metrics for assessing performance on a statewide or state-specific basis. A review of the assessment tools explains the shortfall of a quantitative-only performance measurement system.

## **2. Assessment Tools**

In an effort to gauge progress, six evaluation efforts have been identified by DHS as keys to the assessment of preparedness—the State Preparedness Reporting (SPR) system, the National Incident Management System Compliance Assistance Support Tool (NIMSCAST), the Grants Reporting Tool (GRT), the Logistics Capability Assessment Tool (LCAT), the Gap Analysis Program (GAP), and the Cost-to-Capability (C2C) pilot program (GAO, 2010, p. 9). FEMA has further been developing a Comprehensive Assessment System (CAS), but to date has not released it. Each of the current evaluation efforts is based on self-assessment, leading to inconsistent results. For example, the NIMSCAST was developed by FEMA to evaluate and report achievement in NIMS compliance objectives. It is a comprehensive *self-assessment* system identifying successes and shortfalls in compliance, identifying best practices, and providing technical assistance from the National Integration Center (NIC) (FEMA, 2009b, p. 4). However, full compliance is unachievable based on subjective definitions and FEMA’s lack of reasonable assurance that entities have taken actions aimed at improving preparedness (GAO, 2009).

FEMA has concentrated its efforts on the CAS as a mechanism for capabilities assessment. It is based on the five-step process of defining, collecting, analyzing, reporting, and improving preparedness data (GAO, 2010, p. 27). The CAS was envisioned to effectively assess prevention, response, and recovery capabilities; eliminate redundant data calls; reduce the burden on respondents; and ensures the collection of meaningful data to guide policy and resource allocation decisions (FEMA, 2010a). To date, the CAS has not been implemented, due in large part to the revisions in HSPD-8

leading to the 2011 release of PPD-8, the modifications in capabilities in the NIMS Training Plan (DHS, 2011c, p. v), and questions about collection of the right information without undue burden on the states (OIG, 2008, p. 10).

In the private sector, the Balanced Scorecard (BSC) has been used successfully for measuring performance (Niven, 2003, p. 4); it defines a measurement tool for financial and customer results, operations, and organizational capacity. The BSC, developed in the early 1990s, provided a look at the results of operations (qualitative) in the form of customer satisfaction and the analytic benchmarks (quantitative) in the form of financial returns (Kaplan and Norton, 1992, p. 73). It was also designed to measure non-financial performance; align vision and mission with customer requirements and day-to-day work; manage and evaluate business strategy; monitor operation efficiency improvements; build organization capacity; and communicates progress to all employees (Rohm, 2002, p. 1).

Sharon Caudle, a researcher and faculty member at the Bush School of Government and Public Service at Texas A&M University, asserts that the BSC can be applied to homeland security enterprise (Caudle, 2008). She offers five relationships that must be accounted for in the homeland security BSC: public stewardship, clientele impact, day-to-day processes, human capital support, and enabling support. Caudle's assertion concludes with an underlying question: "What scorecard design and organizational factors can respond to the complexities of homeland security delivery, partner relationships, and the responsibilities and resulting strategy agreement (Caudle, 2008)?" Caudle's question prompts further research about the efficacy and utility of the BSC for performance measurement in emergency management.

### **3. Outcomes Focus**

The literature stresses the importance of measurable outcomes for gauging the effectiveness of the organizational, collaborative, and planning efforts. Government organizations have been given increasingly stronger mandates to improve effectiveness. This began with the Government and Performance Results Act, which mandated strategic planning and a focus on results, impacts, and outcomes (Whittaker, 2003, p. 8). And now with the treasury appropriated to preparedness to date and the passing of the 10-year

anniversary of 9/11, the nation demands accountability and a reconciling of the cost to the benefits achieved.

The 2002 Homeland Security Strategy called for emergency preparedness, capability enhancement, and incident management (2002, p. 42), and the 2007 strategy was designed to link programs and operations to performance measures, mission goals, resource priorities, and strategic objectives (HSS, 2008, p. 2). A significant event that has reshaped emergency management and the homeland security paradigm was the Hurricane Katrina disaster in 2005, resulting in the Post Katrina Emergency Management Reform Act (PKEMRA). The PKEMRA shifted emphasis to improved measurement of desired mission outcomes and the contribution of programs, activities, and resources to mission outcomes (QHRSR, 2010, p. 78), as well as a focus on shortening recovery time to a sense of normalcy.

The outgoing secretary of the DHS, Michael Chertoff, asked that the Homeland Security Advisory Council develop 10 key challenges for the incoming secretary. Two of those key challenges, in particular, support the need for future study: “the work of strengthening our Nation’s disaster response capabilities is not complete” and “lead the building of a resilient America” (HSAC, 2008, p. 5). There is a nexus in these challenges that prompts research: to the develop capabilities that are flexible, scalable, adaptable, and interoperable, and that perform and achieve the emergency management mission outcomes necessary to prepare, respond, recover, and adapt to the “new normal” created by the disastrous event. These emergency management outcomes can be reasonably predicted, observed in action, qualitatively measured, and improved through a task-to-outcomes balanced construct as the military has.

The nation is now on a path moving from a strategy based on capability-based planning (The White House, 2003a) and development to resilience building system (The White House, 2011); it is a system with an agile, flexible approach to prevent, protect, mitigate, respond, and recover, with core capabilities that can be mixed and matched as needed (The White House, 2011). The desired outcomes are contained in a set of focused planning frameworks that support the need and effective delivery of these core capabilities described in the National Preparedness Goal (2011, p. 1). Collectively, PPD-8 proposes a system, the National Preparedness System (NPS), that provides an



instrument to build, sustain, and deliver the core capabilities to achieve the goal of a secure and resilient nation (DHS, 2011b, p. 1) with essential, common capabilities required across the whole community; they are highly interdependent and will require using existing preparedness networks and activities, improving training and exercise programs, promoting innovation, and ensuring that the administrative, finance, and logistics systems are in place to support these capabilities (DHS, 2011c, p. 1). To accomplish this, a performance monitoring and improvement framework is necessary to monitor and complete these national goals and realize the preparedness vision, although at a state-focused level.

#### **4. State Preparedness Position**

While the federal government has been searching for a method to assess preparedness progress, emergency management has continued to pursue an “all hazards” direction on preparedness and disaster response. This direction has not only included capability and capacity planning, and development of response and recovery systems to meet statewide goals, but it has also included the development of an enterprise of holistic planning, trained professionals, and supporting relationships. By coordinating the resources of the traditional response and recovery agencies (i.e., law enforcement, fire services, and the Red Cross) and partnering with non-traditional agencies (i.e., private sector businesses and faith-based communities), emergency management is able to gain force multipliers through horizontal integration. States can point to successful response and recovery efforts, such as the response to the Joplin, Missouri, tornado (FEMA, 2011b) in delivering this outcomes-based, bottom-up holistic approach.

#### **F. HYPOTHESIS**

The overarching goal of the initiatives presented is to answer the preparedness question: “Are we better prepared than we were on 9/11?” While the nation has improved capability, an assessment and improvement system is necessary for accountability of the treasury spent so far. With the uncertainty of future funding, the focus of these dollars must be toward the internal inputs and processes to tell us if we are “doing things right” by providing proper public stewardship; and by the assessment of outputs and impacts of

preparedness to tell us that we are “doing the right things” insofar as providing value to and protection of the public. Beyond quantitative-only assessments that have thus far been inconclusive, there are intangible assets, systems, and practices that can and should be assessed and should be considered when providing the answer to our progress in state-focused preparedness.

The literature suggests a model is necessary to guide the nation beyond the preparedness conundrum. By looking at the need and reality, a model does emerge that can leverage existing quantitative information and combine it with qualitative actions found in emergency management activities and responses. It also can enhance the valued outcomes the public is seeking during preparedness and during a disaster. A blended framework that provides a system to measure performance and monitor progress can be developed for emergency management. The goal of this research is to balance the intangible inputs with the intended results through leadership, along with the organizational processes and performance outputs through management, into a system that delivers the outcomes that preparedness is intended to achieve. The outcomes must be weighted by metric performance measures where possible, and impacts on the quality of life that we see must be anecdotally delivered.

The BSC developed in the early 1990s provided a look at the impacts of operations (qualitative) and the analytic benchmarks (quantitative) (Kaplan and Norton, 1992, p. 73) for assessing progress. In the private sector, the BSC has been used successfully because it defines a measurement tool for financial and customer results, operations, and organizational capacity. It was designed to measure non-financial performance; it aligns vision and mission with customer requirements and day-to-day work; it manages and evaluates business strategy; it monitors operation efficiency improvements; and it builds organization capacity (Rohm, 2002, p. 1).

Can the BSC model be modified to improve state government’s ability to measure the effectiveness of emergency management investments? The BSC was used by private industry for performance reporting, but not solely based on financial bottom line. However, governmental reporting demands accountability of performance outputs for expenditures, even though government provides services that typically are not cost-

effective and would not be attractive to private industry. The BSC also focuses on the value created by the organization for its customers to create loyalty, and not merely on the bottom line. Many assert that, with some adjustments, the BSC can be applied to the public sector (Rohm, 2002, p. 3, Caudle, 2008, p. 14, Marr, 2010, p. 7) and can be adapted to measure the existing preparedness accomplishments in the homeland security enterprise that Congress is demanding.

## **G. METHOD**

### **1. Preparedness Planning**

Preparedness does not end with a plan; planning is a continuous process and a valuable tool for capacity and leadership building. Dwight Eisenhower, the top allied general of the Second World War, stated that “plans are nothing; planning is everything.” As such, a review of the existing state strategies is appropriate for analyzing the contemporary planning processes and strategy development that assesses performance and improvement. The review will also include the analysis of performance assessment tools provided by the DHS, the contemporary approach with CBP, and the performance and value-added benchmarks that support the security and resilience outcomes.

The second part of the primary research question asks if the BSC model currently in use by the private sector—and projected for the public and non-profit sectors—can be modified to improve a state government’s ability to measure and improve the effectiveness of emergency management investments. Private industry has been developing and utilizing performance assessment tools to improve the bottom line (profit) for many years. However, private industry assessment systems go beyond the quantitative measures (i.e., profit, material outputs, and production time studies) to qualitative measures of information capital, research and innovation, and customer and vendor relationships. Despite the importance to a company’s vitality, these measurements can be difficult to measure other than by outcomes (e.g., brand loyalty and value to consumers).

For long-term sustainability of an organization, strategic mapping, planning, and visioning are useful tools for strategy development and assessing the preferred goals that are measured for effectiveness. Specifically analyzing and measuring the tangible and the

intangible inputs, processes, outputs, and impacts provide a gauge, direction and health of the organization, and a confirmation of the strategy chosen. Besides the analysis of the BSC, the review will include the long-standing private sector performance models used today—Total Quality Management and Six Sigma.

The secondary research question supports the first in establishing the elements that are critical to emergency management success. Throughout the research, the benchmarks of successful programs and indicators of performance will be identified that support stakeholder value. History and experience tell us that emergencies and disasters will happen, but it is imperative for an emergency management system to have plans and an operational framework in place to protect and quickly recover to a sense of normalcy. The shorter the time horizon from the disaster to point of normalcy will determine a community's level of preparedness and the success in achieving resilience. The critical “quality of life” areas in a community that emergency management must support are:

- Operations supporting life and property safety;
- Community heritage and historic treasures;
- Infrastructure and continuity of government;
- Social support and community systems; and
- Economic vitality and environmental protection.

## **2. Preparedness Assessment**

A comprehensive preparedness assessment system called for by Congress has thus far proved difficult to deliver because the current assessment systems are simply self-assessments based on subjective evaluation. One can easily measure a process, but it is quite another thing to measure how that process has positively impacted a family or community (Fugate, 2010, p. 7). The preparedness assessment then should focus as much attention on processes and tangible outputs as it does on intangible inputs and the impacts resulting from the emergency management system. Furthermore, a one-size-fits-all system does not address state-specific differences in risk, nor does it account for the will of the people of a state in funding those national benchmarks.

Attempts so far to develop a comprehensive assessment system have focused on self-assigned, numeric-based systems with subjective benchmarks. Only through

exercises and actual events can one capture a glimpse of capability in action and whether it had a positive impact on resilience. Considerable planning, discussion, and dry runs go into exercises under the HSEEP guidelines, and for good reason. As stated earlier, “planning is everything” because it is here where relationships, collaboration, and cooperation are forged. How does one assess this critical step? Nevertheless, there are arguments against the utility of some types of exercises, like the National Level Exercise (NLE), described as “unrealistic, costly, and over scripted . . . an elaborate game” (Bellavita, 2010). Furthermore, exercises are forced into short timeframes due to personnel costs and unit out-of-service time. This can often create unrealistic and atypical conditions that resources are actually deployed and where decisions are rehearsed. Additionally, exercise designers typically pre-stage resources for safety reasons, and players quickly escalate to the highest level of response to accommodate the exercise objectives—again, unrealistic actions by responders during real world events.

### **3. Case Study – National Preparedness**

In March 2011, President Barack Obama issued the PPD-8, which called for refocusing on our national preparedness. While similar in many ways to its predecessor (the HSPD-8), PPD-8 ushered in a heavier emphasis on identifying and managing risk with a vision of creating a resilient nation. Like HSPD-8, the PPD-8 focused on capabilities, introducing a modified and upgraded 31 “core capabilities” as compared with the earlier 37 target capabilities. The PPD-8 outlined a system for national preparedness, called the NPS, which attempts to provide guidance for the development of risk-based capabilities where it had lacked standardization before. The NPS considered local and statewide differences in risk and capability needs, rather than a one-size-fits-all preparedness methodology.

This thesis attempts to draw such an analogy between the PPD-8 and the proposed OBF model. The goal is to demonstrate the utility of the proposed model and compare it to the current national system that has been outlined in PPD-8 and is currently being used. Both models are in agreement that the traditional preparedness method, capabilities-based planning, requires an evolution to strategy and vision-centric methodology; however, each has differing avenues to achieve that end state. While it may

be somewhat premature to judge the effectiveness of the NPS, there is considerable value in drawing similarities and differences between the national model and the proposed model in achieving national preparedness.

#### **4. Quantitative and Qualitative Analyses**

Why research preparedness by examining both qualitative and quantitative perspectives? The answer will be found in data that can be measured, as well as in successful outcomes that can only be observed. It is analogous to the management and leadership discourse for the success of an organization—each contributes to the success of the whole and the absence of one leads to its demise. Quantitative evidence is objective and is primarily data-driven; it is a measure of numbers, statistics, and hypotheses, and models can be monitored and tested with the data. On the other hand, qualitative evidence is difficult to prove due to subjective interpretation that cannot be shown by data—evidence is revealed through an inductive methodology of informed opinions, firsthand experiential accounts, and a process of forming conclusions based on observations. The research will account for capabilities that have been developed quantitatively in terms of the capability developed, personnel qualified, exercises conducted, and equipment purchased, and qualitatively in terms of how the capability performed in an actual event or exercise, the relationships developed and knowledge gained, and the relative resilience of a community.

The goal of this research is to produce a predictive, balanced model that can be used to gauge existing data, systems, structures, and methods to support and enhance our preparedness efforts. The model leverages available quantitative information and highlights the qualitative successes that influence positive outcomes in emergency management. The model stresses how strategy that aligns and balances the four focus areas of an organization—inputs, processes, outputs, and impacts—supports the emergency management mission space.

## **II. ANALYSIS OF PERFORMANCE MODELS**

In this section, the research will look into the planning and assessment models that have been established both pre- and post-9/11. The purpose is to discover the utility and results of these planning efforts toward preparing the nation for terrorist attacks, technological hazards, and natural disasters. The research will identify the same in the private sector for planning and performance assessment systems. It will then compare and contrast these models and identify successes that could be applied to the national preparedness. Previous research by homeland security professionals and municipalities suggests that a private sector performance system, called the Balanced Scorecard, has merit for this research and performance assessment in the government arena.

### **A. CAPABILITIES-BASED PLANNING**

The military philosophy on capabilities-based planning began with a transition in the mid-1990s from a threat-based to a capabilities-based strategy in the wake of the dismantling of the Soviet Union. CBP is a class of all-hazards planning, and it addresses these planning events under conditions of uncertainty and the growing uncertainty in the threat environment by using a wide range of possible scenarios. It tries to bound requirement capabilities suitable for a wide range of threats and hazards within an economic framework that necessitates prioritization and choice (U.S. Legal, 2011). Further, CBP is an integral component of the 2005 NPG resulting from HSPD-8. This planning approach provided methods that allowed for deliberate considerations under uncertainty (Larson et al., 2001, p. 16), and provided a means of protection that would be suitable for a wide range of modern-day challenges and circumstances, while working within an economic framework. It was a contrast to the military's previous Cold War strategy of developing reactive responses to specific threats and scenarios. In the wake of 9/11, the CBP strategy served the emergency management mission space by providing the tools and benchmarks necessary to meet the challenges of an all-hazards emergency response or an asymmetrical terrorist threat (Larson et al., 2001, p. 9).

To support these benchmarks, the DHS identified 37 target capabilities necessary to respond effectively to disasters (DHS, 2007b, p. *iii*). These target capabilities were

intended to develop “a nation prepared with coordinated capabilities to prevent, protect against, respond to, and recover from all hazards in a way that balances risk with resources and need” (TCL, 2007, p. v). The DHS also developed 15 high consequence planning scenarios designed to focus contingency planning on preparedness work at all levels of government and with the private sector (DHS, 2007a, p. iii). The PPD-8, which is a revision of the origin 2003 HSPD-8, reestablished the all-hazards NPG in 2011. The PPD-8 established core capabilities related to the mission areas, its descriptions, and associated performance objectives addressing the meta-scenario (multiple maximum events), focusing these core capabilities on necessary functions during a major disaster. For example, there are 13 core capabilities in the response mission space—the first six core capabilities enable a rapid and effective response, while the remaining seven address the recovery needs and priorities of the survivors and communities impacted by the catastrophic event (Review PPD-8, 2011, p. 12).

## **1. Capabilities Strategy**

Private industry has also recognized capability-based strategies since the early 1990s and has based the strategy on the notion that internal resources and core competencies derived from distinctive capabilities provide the strategy platform that underlies a firm’s long-term profitability. (Richards, 1999). If one removes “profitability” and replaces it with today’s “resiliency,” the homeland security relationship is comparable. What can be learned from the capability building experiences of private industry, and how it can relate to the homeland security mission?

The benefit of this capabilities-based strategy is the development of a “resilience capacity.” In the business world, an organization’s resilience capacity captures its ability to take situation-specific, robust, and transformative actions when confronted with unexpected and powerful events that have the potential to jeopardize an organization’s long-term survival (Lengnick-Hall and Beck, 2008, p. 2). One can draw this same correlation that the nation’s psychological resilience capacity was borne out of the events of 9/11 by the country’s transformative action toward terrorism. One might also conclude that capabilities are integral to a resilience strategy; however, capabilities alone without



regional coordination and partnering— delivering capacity, readiness and timeliness— cannot provide resilience.

The nation has not yet mastered collaborative development of capability and unity of effort on a holistic basis—that is, *all* of the state’s assets working interoperably within a single mission space. Other than certain special military units (e.g., the Civil Support Teams (CST) and hazardous materials teams), few local responders have worked with the state’s National Guard (NG). Therefore, they have little understanding of the assets and roles they will play in a meta-scenario. Conversely, the state’s military are operationally unfamiliar with local resource capabilities and the use of the National Incident Management System (NIMS) Incident Command System (ICS). As a disaster requires statewide or national coordination, the lines of authority and command become difficult to navigate. Local agencies and higher levels of government act in much the same way. Due to the lack of familiarity with other like capabilities, these agencies cling to their agency or discipline silo rather than work within a coordinated structure.

## **2. Operational Strategy**

However, operational assets, resources, and capabilities are not enough; the documents also indicate that collaboration is the key element in developing a capabilities-based strategy. Collaboration links capability together to develop operational capacity—it is not just about capability building; it’s about capacity deploying. Operational capacity can be defined as the personnel, equipment, facilities, systems, processes, and preparations, along with the readiness to use them (Catlett, 2010, p. 8). Operational capacity has a major impact on outcomes and resilience. What happens in the initial 72 hours of a large-scale emergency or disaster will determine the time to new normal. The difficulty with CBP without collaborative planning is that it promotes vertical integration within organizations, agencies, and disciplines, rather than the horizontal integration through the development of complementary, collaborative capacities across a state’s portfolio of resources.

A strategy is needed that takes the homeland security enterprise beyond the exclusive capabilities-building approach to one that holistically meets the challenges of the asymmetrical actions of terrorism and an all-hazards response to natural and man-

caused disasters. The shortfall of CBP is that it is solely based on capability development and does not accomplish the planning and operational realities of a catastrophic incident. Capability must be tied to mission, function, or objective (DHS Risk Lexicon, 2010, p.16) in a comprehensive approach; an approach that is holistic; and an approach that is in concert with all stakeholders—public sector, private sector, military, and its citizenry.

The CBP approach continues to have value, however, since it supports regional planning; it strengthens information sharing; and enhances communications interoperability—the necessary inputs of a preparedness system. Additionally, CBP supports the implementation of the NIMS, the NRF, and the National Infrastructure Protection Plan (NIPP), some of the processes of a preparedness system. Capabilities planning alone without a comprehensive, adaptable method of achieving the holistic operational impacts will leave the national preparedness question unanswered. The utility and history of CBP and the existence of the DHS documents places an emphasis on preparedness and underscores the importance of developing these essential capabilities within emergency response systems. The next section will review the DHS performance assessment systems used to date and contrast them to the performance management systems of the private sector used to achieve outcomes.

## **B. DEPARTMENT OF HOMELAND SECURITY ASSESSMENT SYSTEMS**

Congress has demanded accountability through measurement of the performance of the homeland security enterprise; however, DHS has struggled with developing a measurement system and reliable processes that would account for the evolving nature of homeland security. In an effort to gauge progress, six evaluation efforts have been developed by DHS for preparedness assessment: the State Preparedness Reporting System (SPRS), the National Incident Management System Compliance Assistance Support Tool (NIMSCAST), the Grants Reporting Tool (GRT), the Logistics Capability Assessment Tool (LCAT), the Gap Analysis Program (GAP), and the Cost-to-Capability (C2C) pilot program (GAO, 2010, p. 9). FEMA has yet to implement the five-step central repository for national preparedness data, known as the Comprehensive Assessment System, called for in HSPD-8 in 2003 and later in 2006 with the Post-Katrina Emergency Management Reform Act (FEMA, 2009).

## **1. State Preparedness Report**

The SPRS is a self-assessment system where states assess preparedness goals and individual state gap analyses against the TCL. The definitions, goals, and risks are subjectively interpreted by a state, as well as the end outcomes envisioned. For example, a state can define interoperability in different ways. Interoperability could be defined in terms of communication between teams, between disciplines, or effective communications between coordination systems; it can range from interpersonal voice communication to a technology-focused capability to operational effectiveness. With no clear definition and guidance, each state will report differently and results will be subject to interpretation (GAO, 2010, p. 13). The State of Wisconsin developed on a statewide communication system-of-systems to provide 95% coverage from a mobile radio throughout the state (OJA, 2011). The state chose to leverage existing VHF, state-owned infrastructure that provided both an interoperable communication system at the interagency coordination level, and it also provided a framework for municipal and county agencies to build out their localized systems for in-building coverage. The neighboring state of Minnesota developed a statewide system, using 800 MHz spectrum, for in-building coverage for all public safety agencies to provide a range of communication uses, from day-to-day operations to statewide coordination (MN-DOT, 2010, p. 2). Each state can define interoperability in its own way, basing it on its individual need, so they have achieved communication interoperability by the state's definition placed on the target or core capability; in this example, however, interoperability is not uniformly assessed, nor is it universally defined as a performance measure.

Additionally, multiple scoring scales have been used and inherent political challenges exist with this report. The 2010 SPRS was based on a 10-point scale based on the TCL, and the 2011 report utilizes a five-point scale against the core capabilities. If the goal of this reporting system was to measure progress over time, the system lacks standardization for scoring, scoring criteria, and the measure of successful completion. As previously stated, the SPRS is based on self-assessment, and as such, participants in the grading typically cannot represent the level of preparedness of the entire state. The evaluator's objectivity is called into question when the evaluator is scoring with thoughts

of potential political ramifications and media interest in a true low score. Furthermore, there is equal pressure with the potential for reduction in funding in a given category for a high score.

## **2. National Incident Management System Compliance Assistance Support Tool**

The NIMSCAST was developed by FEMA in 2004 to evaluate and report achievement in NIMS compliance objectives. It was designed for the emergency management community as a comprehensive self-assessment system identifying successes and shortfalls in compliance, identifying best practices, and providing technical assistance from the NIC (FEMA, 2009b, p. 4). The NIMSCAST is designed as an instrument for federal departments and agencies, as well as state, territorial, tribal, and local governments to evaluate and report their jurisdiction's progress and achievement of NIMS implementation. As a self-assessment tool, the results were unreliable, and it further lacked reasonable assurance that entities had taken actions aimed at improving preparedness (GAO, 2009).

## **3. Grants Reporting Tool**

The GRT is a reporting system to monitor financial and programmatic information from states and local and tribal governments for grants received and cooperative agreement awards. The information enables FEMA to evaluate applications and make award decisions, monitor ongoing grant performance and manage the flow of Federal funds, and appropriately close out grants or cooperative agreements (FEMA, 2009c, p. 59,216). GRT supports the information collection needs of FEMA for each grant program and progress made in developing capabilities (GAO, 2010, p. 10). The GRT is designed to be a quality assurance system for accounting of grant funds, rather than as a preparedness assessment system.

## **4. Logistics Capability Assessment Tool**

The LCAT was designed by the FEMA's Logistics Management Directorate for use by states to improve readiness, increase response capacity, and maximize the management and impact of homeland security resources (Fugate, 2011). The LCAT is

tailored for use by states to evaluate their current disaster logistics readiness, identify areas for targeted improvement, and develop a roadmap to both mitigate weaknesses and further enhance strengths (FEMA, 2010b, p. 3). Even though FEMA has developed this tool, the corresponding logistics improvements at the state and local levels have lagged behind. Some states do not have adequate logistics functions, and the situation is unlikely to change in the current fiscal environment (OIG, 2010, p. 4). Furthermore, the LCAT is self-reporting system for states to categorize and inventory logistics resources in the individual states. The LCAT indicates potential and is lacking performance measurement.

## **5. Gap Analysis Program**

The goal of the GAP is to improve operational readiness and reduce disaster impacts by identifying and reducing or eliminating shortfalls that exist between estimated requirements, standards, and performance measures and the actual response and short-term recovery capabilities (GAP, 2009, p. 3). The GAP is based on selected disaster scenarios from critical area list and focuses on the initial 72-hours of the response, which does not assess the whole response system for a meta-scenario. The GAP is beneficial for assisting states to identify deficiencies in an individual state's system. However, the information would be difficult to uniformly aggregate over the entire state emergency management enterprise.

## **6. Cost-to-Capability Program**

The C2C was established as a rear-looking initiative to help better analyze the impact that awarded grants have had for future grant planning. It was developed by FEMA's Grant Management Directorate and intended to be a system to support decision-making about effectively managing FEMA's grants and to assist grant recipients of those funds. The metrics have yet to be developed. Even when complete, the C2C results are intended to measure grant performance and will fall short of measuring vulnerability or preparedness (FEMA, 2009, p.12). Input data is to be based on self-assessments of capabilities from state preparedness plans, estimates of baseline capability, and the estimated relative capability improvement expected from the investment (CRS, 2009, p. 17)—again showing uncertain reliability, accuracy, and data validity. Even FEMA admits

that C2C, as a national capability assessment tool, is limited by the variations in the analytical skill levels across state and local users (GAO, 2008, p. 17).

## **7. Comprehensive Assessment System**

Prior to the National Preparedness System, FEMA had concentrated its efforts on the Comprehensive Assessment System (CAS) as a mechanism for capabilities assessment. It is based on the five-step process of defining, collecting, analyzing, reporting, and improving preparedness data (GAO, 2010, p. 27). The CAS was designed to effectively assess prevention, response, and recovery capabilities, eliminate redundant data calls, reduce the burden on respondents, ensure the collection of meaningful data to guide policy and resource allocation decisions (OIG, 2010). To date, the CAS has not been implemented, due in large part to the revisions in HSPD 8 to PPD-8, the modifications in capabilities in the NIMS Training Plan (DHS, 2011c, p. v), and questions continue about how to collect the right information without placing undue burden on the states (OIG, 2008, p. 10).

## **8. National Preparedness System**

The NPS attempts to integrate preparedness activities that have already been accomplished into a system that brings in new tools and processes to achieve outcomes necessary during emergencies and disasters. It builds on the efforts of the PKEMRA to form a six-step methodology to assist and enable states to collaborate approach across the whole community for national preparedness (FEMA, 2011d, p. 1). The six steps self-assessment of the NPS process include the identifying and assessing risk, estimating capability needs, building and sustaining capabilities, developing a plan to deliver capabilities, validating capabilities, and the ongoing review and revision as the environment changes (FEMA, 2011d, pp. 2–6). The NPS correctly validates the capability needed by a risk assessment and necessitates the development of capabilities or sustainment of current capabilities. It guides states to develop a strategy to deliver capabilities through a collaborative, holistic process, rather than the vertical integration homeland security organizations have traveled previously. Each state would then aggregate the results of their Threat and Hazard Identification and Risk Assessment

(THIRA) to the regional and then national level. The NPS is a quantum leap forward for FEMA in the development of a long-term approach to preparedness; however, the system has not been fully developed at this point, and, like the SPRS, may be subject to revision without consistency.

## **9. Analysis of DHS Assessment Systems**

The measurement of relatively small pieces of homeland security overall might be accomplished in straightforward methods. As soon as an attempt is made to aggregate or integrate relationships among the various parts of the enterprise, however, the conclusions become unreliable and suspect (White Paper, 2010). Furthermore, these evaluation efforts are based on self-assessment, leading to inconsistent results and often to intense political debates. It is extremely difficult to measure nebulous questions, such as “Are we more secure?” and “Are we better prepared?”

Based on the capability that has been developed and the results of response to real world events, one can observe the outcomes that support resilience. The consortium stipulates that homeland security performance can and should be measured, but not in the conventional ways other less complex government programs are measured (White Paper, 2010). Homeland security performance might look more like the results we expect to see from national security measurements, as in collaboration, partnering, and forward-leaning (Blair, 2009, pp. 8–10), rather than, for example, measurements of emergency service outputs (e.g., response times to incidents). The outcomes we select to measure homeland security must come from the priorities of our communities and strategic national priorities, not solely those of the homeland security government sector (White Paper, 2010).

### **C. PRIVATE SECTOR ASSESSMENT SYSTEMS**

Although less than 10 years in making, the homeland security experience has yet to develop an assessment system that provides measurable results. The private sector utilizes three successful performance assessment and improvement systems—Total Quality Management, Six Sigma, and the BSC. The focus of private sector systems is on both the customer and the bottom line—combining performance with customer value.

With the loss of either, the company will no longer be able to maintain operations and will fail.

## 1. Total Quality Management

Total Quality Management (TQM) was developed by W. Edwards Deming in the post-World War II reconstruction period in Japan. It ushered in a management philosophy that believed that quality and productivity would increase by concentrating on the people that perform the tasks, involving them in the process improvements, and building long-term relationships with suppliers (Cohen, 2009). Deming developed 14 points for management. At first sight, they appear to be a jumble of radical ideas, but the key to understanding a number of them lies in Deming's thoughts about variation. He felt that variation led to waste and poor performance (Deming, 1986, p. 20). Deming believed that performance improvement was a continuous process, accomplished with proactive teams of employees. This management philosophy focused on the long-term survival of an organization (Brocka and Brocka, 1992, p. 5).

When TQM was introduced, it was a break from the contemporary management philosophy of the time by concentrating on people rather than productivity and by having customer-focused organizations involving their employees in the continuous improvement process. TQM uses strategy, data, and effective communication to integrate the quality principles into the organization's culture and activities into a problem-solving cycle (Hackman and Wageman, 1995, p. 2). TQM is based on eight organizationally interwoven principles depicted in Figure 1.



Figure 1. From Total Quality Management Principles



TQM supports the assertion that performance improvement or quality improvement is equally based on quantitative data, process, and training, as it is with qualitative leadership, relationships (internal and external) and culture. It further supports the notion that a holistic strategy involving all stakeholders, internal and external, is the key to success (TQM, 1996, p. 4). In TQM, however, product quality is given higher priority than intangible results and focuses on variation in prescribed processes. If TQM works well with a fixed set of process parameters and the reduction of variation in those parameters, it is not suited for nor would it be effective in the no-notice, rapidly evolving, and adaptive threats in the homeland security environment.

## **2. Six Sigma**

Six Sigma is a management strategy not unlike TQM, which stresses quality improvement in processes; however, it strives for zero defects in production. Six Sigma was originally developed by Motorola, deriving its name from an organizational goal of reducing defects to a margin of six standard deviations (utilizing the Greek letter " $\Sigma/\sigma$ " as one standard deviation) from the production mean. The strategy included an organization's development of subject matter experts (SME) trained in Six Sigma for people development (DFSS, 2002, p. 7), but it focused on process improvement.

## **3. Balanced Scorecard**

The BSC has been used successfully by the private sector for measuring performance; it defines a measurement tool for financial and customer results, operations, and organizational capacity (Niven, 2003, p. 4). Developed in the early 1990s, the BSC provided a look at the results of operations (qualitative) in the form of customer satisfaction and the analytic benchmarks (quantitative) in the form of financial returns (Kaplan and Norton, 1992, p. 73). It also was designed to measure non-financial performance; align vision and mission with customer requirements and day-to-day work; manage and evaluate business strategy; monitor operation efficiency improvements; build organization capacity; and communicates progress to all employees (Rohm, 2002, p.1). The BSC balances the key organizational parameters, operations, capacity, and results into a dynamic assessment system.

While strategy has different meanings in different contexts, Niven defines strategy as the broad priorities adopted by an organization in recognition of its operating environment and in pursuit of its mission (2005, p. 130). Strategy provides alignment between day-to-day actions (means) and the vision (ends) of the organization (Nickols, 2003, p. 8). The BSC originally was developed for the private sector; however, it has been successfully adapted for government and nonprofit organizations. For example, in 2004 and then again in 2008, the City of Charlotte, North Carolina, was an early governmental adopter and successfully used the BSC. The City of Charlotte used the BSC to define performance management, emphasize strategy, and as a forward-looking mechanism to translate strategy into tangible, measurable objectives (Schumacher, 2008, p. 4) as opposed to simply reporting data. Instead of a public sector organization attempting to meet all requests—that is, “being all things, to all situations”—it prioritizes actions and provides direction for the organization.

Furthermore, Bryson asserts that developing organization-wide and departmental balanced scorecards increases effectiveness of meeting its mandates, fulfilling its mission, and creating public value (2004, p. 55). It provides a comprehensive view of performance against plan by offering a balance between short- and long-term objectives, between desired outcomes and performance drivers, and between “hard” and “soft” objective measures (Whittaker, 2003, p. 4). The development of public value is paramount for the long-term existence and sustainment of public organizations, and it is created when an organization can demonstrate accountability for the funding provided by generating outcomes that matter to its stakeholders. Never before have outcomes mattered so much to government and nonprofit organizations as they do today (Niven, 2005, p. 39).

#### **4. Analysis of Private Sector Assessment Systems**

In the analysis of private sector assessment tools there is no doubt that performance is a primary influencing factor. There is relevance to the performance of the emergency management mission, and there are takeaways that can be useful. For example in TQM, focusing on the people that perform the tasks, involving them in the process improvements, and establishing relationships support the emergency management drivers

of performance. In Six Sigma, the emphasis on internal processes, development of in-house subject matter experts, and focus on strategy are key considerations of a proposed assessment system. The BSC looks more broadly at the financial and non-financial perspectives of the organization, as well as the alignment of mission and vision, which results in alignment of focus areas and improved performance.

However, complex and chaotic asymmetrical terrorist attacks and “maximum of maximum” emergency management events are characterized by a large numbers of interacting, cascading elements, and variables are rarely fixed. These interactions are nonlinear, where minor changes can produce disproportionately major cascading consequences (Snowden and Boone, 2007, p. 6). These events will rarely follow defined rules and often are characterized by limited time to analyze and deliberate options. These events call for emergent, novel thinking with a management system that is flexible, adaptable, and scalable. A performance system based on process and outputs alone will not support an emergency management assessment framework. There is considerable value in leveraging the experiences in private industry and tempering it with the emergent challenges in homeland security to form a method for assessing performance.

Using Caudle’s assertion of the five relationships in the BSC, the homeland security balance scorecard must account for public stewardship, clientele impact, day-to-day processes, human capital support, and enabling support. Public stewardship is the judicious use of public resources, such as program revenue, grants, and staff, to ensure results in the efficient manner that minimizes cost (Niven, 2005, p. 13). As further stated by Niven (2005, p. 14), clientele impact is how we appear to our customers, as well as the political leaders and the public. The key processes are those that an organization must excel at to continue to add value (Niven, 2005, p. 15). Investing in the human capital in the organization, creating subject matter experts, and improving skills promote the influx of new ideas and ensure process improvement. And finally, enabling support will develop and continue when stakeholders see the value—it’s the return on investment the organization delivers that will sustain the enterprise.

These five relationships are interdependent and linked through strategy (Kaplan and Norton, 1996, p. 25), which aligns with the existence of organization (mission) and

the organizational direction (vision). Professor Caudle's (2008) assertion concludes with an underlying question: What scorecard design and organizational factors can respond to the complexities of homeland security and emergency management delivery, partner relationships, and the responsibilities and resulting strategy agreement? What strategies have states used to measure performance and deliver value? The questions posed offer a place to begin the development of a framework that addresses performance of our preparedness activities.

### **Summary**

The CBP strategy served the emergency management mission space by providing the tools and benchmarks necessary to meet the risks of all-hazards emergencies and the challenges of terrorism. The DHS supported these benchmarks with 37 target capabilities that were commonly considered necessary to respond effectively to disasters, and as a result, states adopted a capabilities-based strategy to build the necessary defenses to these challenge. A strategy based solely on capabilities will provide the platform that supports a community's resilience, where in actuality, resilience is largely dependent on the real-world performance individually and the impact those capabilities have collectively when disaster strikes.

FEMA has been struggling to find a system to assess performance over time to show Congress the improvement made since 9/11. The FEMA-issued assessment systems have focused on a series of one-size-fits-all, self-assessment approaches at the state level to determine the level of national preparedness. Even the state-level assessments find difficulty in determining community-level disaster preparedness. In the analysis of private sector assessment tools, there is a focus on the bottom line performance as an important factor for survivability, but building customer value is equally important for sustainability. It is also true that the development of public value is paramount for the long-term existence and sustainment of public organizations; it is created when an organization can demonstrate accountability for the funding provided by generating outcomes that matter to its stakeholders.

Therefore, a FEMA value-added assessment system must focus on the community and statewide impact of disaster response. It must also account for the support it receives through day-to-day processes and investments in its human capital through a strategy

based on outcomes. The binding strategy for this assessment system must deliver the outcomes we select to measure from the priorities of our communities and states that support their resilience in the aftermath of disaster, with an eye on the national strategic priorities rather than a focus on it.

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### **III. SYNTHESIS OF AN OUTCOMES MODEL**

From the literature on assessment systems, both governmental and business, Section III will explore the goal of preparedness: outcomes that support state-specific and national resilience. Based on the preparedness question and an outcomes end state, a model will begin to emerge using an outcomes logic model discovered in the research. The essential components of the outcomes logic model are inputs, processes, outputs, and impacts. These essential components will be further fleshed out using successes that are anecdotally known to be effective in emergency management and homeland security. Reaching back to the Balanced Scorecard as an assessment and performance system and combining it with the outcomes logic model, a framework emerges that may answer the national preparedness question.

The new framework becomes a predictive model to assess a statewide preparedness and has the potential to provide a national view of preparedness. However, conventional assessment of quantitative analyses must be balanced with an equally rigorous qualitative assessment as well; management activities and outputs achieved are equally balanced with emergent leadership and the impacts it delivers to accomplish statewide preparedness. The framework also includes the importance and reliance on strategy to realize the national preparedness vision.

After an organization identifies strategic goals and develops plans to accomplish them, the next step is to organize the enterprise for success. An organizational model or framework must be developed that brings the moving parts into a synchronized effort. To begin the process of developing such a model for emergency management that gauges performance, one must explore the factors that are commonly found in successful programs and build upon them. An outcomes-oriented logic model is a good starting point since it describes the linkage between planned activities and expected outcomes. Using a logic model demonstrates how an activity or set of related activities are projected [or predicted] to cause an outcome or set of outcomes (Westbrook and Murphy, 2009). Many evaluation experts agree that use of the logic model is an effective way to ensure program success. Using a logic model throughout a program helps organize and

systematize program planning, management, and evaluation functions (Kellogg Foundation, 2004, p. 5). The benefits of an outcomes logic model are:

- Identifies strategic goals that are intended in planning;
- Identifies what specific activities will produce specific outcomes;
- Identifies an overarching vision in short-, intermediate- and long-term goals;
- Identifies stakeholder value that the model is intended to attain; and
- Identifies the factors that positively or negatively influence the outcomes predicted (Kellogg, 2004, Westbrook and Murphy, 2009).

Figure 2 serves as a conceptual framework identifying the common relationships between the factors in an outcomes-oriented logic model.



Figure 2. Outcomes Logic Model (After Greenfield et.al., 2006, p. 4)

Successes within the components of the model are often gauged by benchmarks based on best practices; until recently, however, the homeland security journey has advocated a “one-size-fits-all” approach that is impossible and impractical to attempt to achieve. Some (Bauer, 2009, p. and Stigler, 2010, p. 78) have called for a modification in the NIMS ICS to work in other circumstances where the national model does not. One can argue that these practices are instead smart practices that have been adapted to one’s environment where they become useful. Bardach (2005, p. 1) suggests that there is a misrepresentation of best practices, that “rarely will you have any confidence that some helpful-looking practice is actually the ‘best’ among all those that are addressed to the same problem or opportunity.” He suggests that “smart practices” rely on resourceful collaboration, innovation and initiative, and have an added value of gaining something “on the cheap.” The performance logic model is one of those smart practices that are used both by the private sector and increasingly by governmental and nonprofit organizations. The following sections will look at these factors in the outcomes logic model—inputs,



processes, outputs and impacts—as they relate to the emergency management environment.

## **A. INPUTS**

Inputs are tangible and intangible materials that an organization takes in or develops to ultimately produce the products or services intended by the organization. Inputs can be tangible resources (i.e., people, funding, equipment, facilities, supplies); and in today's technology-driven world, the importance of non-tangible resources (i.e., people's ideas and time) has driven organizations. Inputs can also be major external forces that influence the organization and its programs, including, but not limited to, stakeholder needs, collaboration, legal mandates, political, and environmental considerations. Having the ideal inputs alone does not guarantee success, although it lays the value-added foundation to accomplish intended goals.

The inputs that support a successful emergency management program are emphasized by human capital, organizational orientation, enabling support, and inter-agency collaboration. Human capital responds to important interpersonal skills that include forward-leaning leadership, positive culture, customer focus, and communicating expectations. Organizational orientation enhances mission-vision strategy, learning-adapting employees, performance-driven ideas, and political-legislative objectives. Operational support delivers risk-informed planning, capability development, standardization and interoperability, and readiness and reliability of resources in a comprehensive system. And finally, interagency cooperation enhances collaboration and partnering, operational networks, information sharing, and the holistic approach to emergency management. The following section will explore these inputs that have positively contributed to emergency management and the effect on short- and long-term results.

### **1. People-Centered Organization**

People drive an organization in a particular direction; however, a unifying positive orientation drives in the mission-specific direction and achieves results that matter. Positive member orientation in emergency management is supported in three

critical areas: organizational culture, investing in knowledge capital, and purposeful hiring practices. Beyond developing positive member orientation is the degree of investment the members have in the leader. Leadership is not a competition for the hearts and minds of the organizational members; it is a collaborative contract and the level of credibility one entrusts in that leader. Combined, the internal strength of its members and the investment in its leader form the foundation needed to develop outcomes-oriented organizations.

The degree of positive orientation an organization has is largely dependent on the culture within. One study found that organizational effectiveness was closely linked with organizational culture (Lee and Tseng, 2005, p. 161). While organizational culture is broadly defined by the attitudes, experiences, beliefs, and values of an entire organization, the degree of organizational traits, found in ambivalence, indifference, and upward mobility, determines the orientation of the employee. A separate study concludes that upwardly mobile orientations are positively associated with job satisfaction and motivation, but ambivalent and indifferent orientations are negatively associated with the same (McCroskey et al., 2005, p. 36). Simply stated, the studies conclude that the degree of investment the employee has in the organization and the leader, the greater tendency for the organization to produce positive outcomes.

Successful organizations understand the critical cause-and-effect linkage between the investment in human capital and the development of subject matter experts. The results include improved thought, critical thinking skills, and adaptive innovation by the group—a key ingredient of an emergency management organization. Another way to enhance the workforce is to hire good people—people with the technical expertise and pragmatism to support the mission of the organization. Hiring the right people is the single most important business function that that an organization must perform deliberately. Infusing new thought processes and enthusiasm or advancing strategically-oriented individuals from within has an immediate effect on the culture of the organization.

Job satisfaction and motivation are also determined by the extent of credibility one entrusts and invests in the leader. Kouzes and Posner (2003, p. 13–14) tell us that

leaders must gain and maintain credibility with their constituents. They assert that people define a leader's credibility by honesty, the degree of forward thinking, the level of competence, and how the constituent is inspired. One study evaluated the level of trust the member has in leadership. It shows a significant relationship to five important outcomes: job performance, organizational citizenship behaviors, intent to quit, organizational commitment, and job satisfaction (Dirks and Ferrin, 2000). Therefore, if it is people that move an organization, one can conclude that the extent of positive alignment of organization's culture and the commitment of its members to the leader and the organization's vision will be a key determinant for success.

*a. Decision-Making and Knowledge Capital*

First responders and emergency management professionals have historically relied on experience as a preferred quality in their leaders. Glen Woodbury, former Washington state emergency management director and Director at the Center for Homeland Defense and Security (Naval Postgraduate School), points out that "emergency management has customarily been a gathering of people from other disciplines, especially the military, fire and police services, who have retired from those services and are looking for their second career" (Holdeman, 2010). Experience is an integral factor with the recognition-primed decision making process used during complicated, stressful emergency management events. Experience is important to the stakeholders in the state and provides public confidence in our emergency management leaders.

However, future emergency management leaders may be limited by the paradigms of their discipline, and as Kuhn points out, these discipline paradigms transform a group (1962, p. 19) and its assumptions about or methods to address future challenges. New assumptions (paradigms/theories) require the reconstruction of prior assumptions and the reevaluation of prior facts. This is difficult and time consuming to overcome, especially in a stressful event. It is also strongly resisted by the established community (1962, p. 6–7). When an individual's background is grounded in the parochial school of thought, an individual may be constrained by the ability of traditional disciplines to apply normal problem solving methods to complex problems. Life-long,

well-rounded “out of the box” critical thinking skills have a place in emergency management. The notion of experience-exclusive hiring is increasingly being supplanted by career-minded, critical thinking individuals with formal education.

Prior to 9/11, emergency management focus was on natural or accidental man-made disasters that were non-adaptive, in that there was a reasonable set of known variables. These disasters, by their nature, are low probability, high consequence events. Typically, they would initially overwhelm the capacity of the affected area: however they included known operational objectives for response and management life-saving actions, destruction to property, and protection of social, environmental, economic and political stability of the affected region (Pearce, 2000, p. 23) and a known set of variables. These challenges are met with a rubric of standard operational methods and effectively applied “good practices” that best achieves positive outcomes—in that one senses the problem, analyzes consequences and options, and applies the appropriate resources (See Figure 3, Kurtz and Snowden, 2003, p. 468). If the initial analysis underestimates the scope of the event or the initial response proves ineffective, then sending additional resources and repeating incident objectives would be a typical approach to eventually resolve the problem.

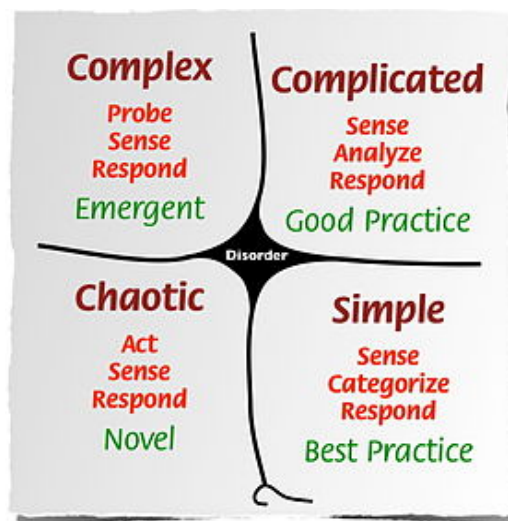


Figure 3. Cynfin Decision-making Framework (From Snowden and Boone, 2007, p. 4)

Threats from terrorism are adaptive, where the adversary will poke at the system, adapt to the response, evolve through alliances, or change tactics seemingly without reason. This creates extreme complexity during the event—9/11 being a case-in-

point. On that day, our traditional disaster definition did not prepare our political leadership and the response community for the new paradigm. Some decisions that day changed from complicated to complex, as with for example, the order to land all aircraft over U.S. skies; and some decisions from complex to chaotic, as with the political decision to have Air Force fighters fire on a passenger aircraft that was not responding and heading toward a perceived target—a decision that had multi-dimensional complexity and ramifications.

A traditional method for addressing complicated problems is training, where one has the opportunity to test the solution against clear and measurable goals and objectives. However, training looks in the rearview mirror to develop decisions for the present situations—that is relying on recognition-primed decision making. What worked well (and not so well) in the past within a synchronous environment developed the necessary knowledge and skills; however, there are too many variables found in complex problems, and the cognitive thinking becomes overloaded (Senge, 1990, p. 365). Many of the problems we face today are increasingly becoming more complex due to interdependencies and self-organized criticality. The methods used to solve complicated problems will not work in the complex decision making environment. By using subconscious, tacit knowledge found in probing, sensing, and adaptation skills, we gain insight and emergent thinking. Subconscious training is better suited for the rapidly cascading, asynchronous environment during a disaster and the resulting decision making complexities needed. Today's leader must intuitively realize when an event does not match the circumstances found in recognition-primed incident and adapt—the key move for leaders is to realize as quickly as possible that something is radically different. Learning organizations are better equipped to sense a unique event, identify the novelties, and react more quickly.

#### ***b. The Learning Organization***

Learning organizations learn how to visualize solutions and collaboratively solve problems (Senge, 1990, p. 367), enabling these individuals to be better equipped to succeed in a rapidly changing environment. Emergency management should be seeking individuals who have the skills to recognize the differences outlined

here and have the flexibility and adaptability to change quickly. The discourse about our future emergency managers—a critically-educated career professional or a second career experienced responder—is without resolution. The goal should be to attract persons who improve organizational thought and possess the requisite critical and creative thinking skills required to meet the homeland security meta-challenges today and into the future. The goal should be to attract individuals who have the perception, adaptability, and resourcefulness in the face of the uncertainty in the asymmetrical environment.

The very first order of business to create a learning organization is effective leadership, which is not based on a traditional hierarchy, but is rather a mix of different people from all levels of the system who lead in different ways (Senge 1996, p. 36). Leadership is about making things happen, contingent on a context. Leaders may create change by playing a central role in the actual change process, or by creating an environment in which others are empowered to act (Ancona, 2005, p. 1). Learning organizations are skilled at five main activities: systematic problem solving, experimentation with new approaches, learning from their own experience and past history, learning from the experiences and best practices of others, and transferring knowledge quickly and efficiently throughout the organization (Garvin, 1993, p.2). Experience, formal education, and critical thinking are virtues of the learning organization, and it is the knowledge capital that an organization possesses that is many times greater than the physical assets it owns. The foundation of the learning organization is in hiring leaders who encourage organizational learning and seek ways to add value to the mission and own the future—no matter what the background and education of the individual.

## **2. External Considerations**

### ***a. Enabling Support***

For an emergency management program to evolve, it requires considerable political and legislative support. Status quo is an incredibly difficult force to overcome—there is greater comfort with a system that is familiar, albeit inefficient and unsustainable, than there is with a system that reflects the realities of today’s homeland security and emergency management world. When faced with complex decisions, people tend to

accept the status quo, as reflected in the old adage, “When in doubt, do nothing.” Across a range of everyday decisions, there is a considerable tendency to maintain the status quo and refrain from acting (Fleming, Thomas, and Dolan, 2010). The problem with status quo in emergency management is that social, political, and policy environments are changing, so capability, capacity, and decision-making must be equally adaptable and flexible to meet these demands. Noted earlier, one such recent policy change is PPD-8. It outlines the five mission areas of national preparedness—prevention, protection, mitigation, response, and recovery—rather than the previous four. In each of these mission areas are core capabilities, which are distinct, critical elements necessary to achieve the NPG (NPG, 2011, p. A-1). An emergency management organization must be oriented toward developing these 31 core capabilities; however, it has to adapt to the national policy change within the confines of the current state legislative and fiscal boundaries.

An emergency management program is founded in its statutorily-based enabling language. Ongoing review of that language and legislative support paves the way through the legal obstacles to fulfilling its ever-changing mission; it breaks down barriers to creating a seamless coordination and response system. Providing situational awareness and maintaining dialogue with the executive and legislative branches of government will enhance the support needed for that ongoing review and revision. One such revision many states are working on is a cross-border mutual assistance system. Even though every state and most territories are participants and have statutory language for the Emergency Management Assistance Compact (EMAC), many states are enhancing their day-to-day mutual aid needs through multi-state mechanisms to permit mutual aid across state lines that do not rise to a major disaster level. Several Midwestern states will be enacting legislation to permit participation in the Mid America Mutual Aid Consortium, allowing response and training below the EMAC at the local level. The legislation addresses such issues as worker’s compensation, tort immunity, training standards, and licensure at the local level. Having worked these concerns out ahead of time enhances response and shortens the time of recovery.

**b. *Regional Collaboration and Partnering***

Homeland security professionals intrinsically value the developing relationships and often point to those relationships as a key factor contributing to the success of an emergency incident. Regional coordination refers to the use of governmental resources in a complementary way toward goals and objectives that are mutually agreed upon by various stakeholders in a region (GAO, 2004, p. 8). Regionally collaborative approaches in government have long been heralded as a preferred method of working more effectively and efficiently. The common wisdom of emergency management is that communication and collaboration are facilitated by personal familiarity, not just institutional contact (Waugh and Streib 2006, pp. 136–37). Anecdotally, emergency managers realize that true educational value comes more from the relationships developed and the information and smart practices exchanged outside of the classroom than from the formal educational experience itself.

The present literature emphasizes efforts that support resiliency, and regional partnerships further support, define, and articulate a common mission and decision-making predicated on specific, high-level regional partnership outcomes or priorities (Caudle, 2006, p. 6). An example can be found in the preparedness plan developed by the National Capital Region, where it concentrates on interoperable communications, information sharing and situational awareness, critical infrastructure protection, and development and maintenance of regional core capabilities (NCR Strategic Plan, 2010, p.1). Regional response networks with risk management decisions made by homeland security partners must account for interdependencies across sectors and jurisdictions (QHSR, 2010, p. 42), which exceeds the decision platform of a capabilities-based planning process. Regional networks are a component of a robust emergency management response system—regional networks aggregate capacity for the mutual benefit of the individual constituent partners. State-based regional programs focus on ensuring that states are prepared to sustain themselves during a meta-scenario emergency event. Through regional programs, states learn the capabilities of their partnering states and quickly tap or merge resources as needed (Rhodes and Carafano, 2006). “Frankly it’s in the state government’s best interest to make sure that there is a network of strong local government emergency management relationships,” said Randy



Duncan, chair of the International Association of Emergency Managers U.S. Government Affairs Committee (Pittman, 2011a).

Aside from the strategic advantage of working together toward common goals, regional collaboration and partnering serve a qualitative component of the preparedness, such as problem-solving and sharing smart practices, that cannot be measured. State-based regional programs work collectively and cooperatively to focus on readiness and response to disasters. The 9/11 Commission Report (2004, p. 314) pointed to the success of the multi-agency Pentagon response, citing three critical points for the positive result:

- Strong professional relationships and trust established among emergency responders
- Adoption of the Incident Command System
- Pursuit of a regional approach to response

The Homeland Security Presidential Directive 5 (HSPD 5) identifies steps for improved coordination in response to incidents. The HSPD 5 serves to enhance the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system (HSPD 5, 2003). In HSPD 5, “engaged partnerships” are clearly a means to effective coordination of disaster operations, and the DHS has acknowledged its importance. Since 2008, DHS has placed an emphasis on the development of initiatives that enhance regional cooperation and coordination. The problem remains that while it is intuitively known that regional collaboration or partnering does support preparedness and response, the absence of measurement models is problematic for the advancement of interagency collaboration (Hovecar, 2000, p. 273). However, regional interagency collaboration and partnering cannot be ignored as a qualitative component of preparedness and must be factored into the preparedness question. Knowing one’s response partners ahead of an emergency consistently results in preferred outcomes. Regional partnering enhances commitment toward operational capacity, cooperative goals, and common operating picture necessary in a meta-disciplinary environment. The aggregated effect of regional partnering is not

easily measured in quantitative terms, and it may not be fully realized until the emergency has occurred—where the real value of these relationships truly emerges.

Building relationships by statewide local emergency managers is critical to ensuring the best outcomes when an emergency strikes (Pittman, 2011). Furthermore, Clovis asserts that “the aggregation methodology does not stop at the state level. For states to meet their regional needs, they must “seek mutual support agreements that provide solutions more appropriate to the consumer-voters” (Clovis, 2006, p. 17). One such example is the Mutual Aid Box Alarm System. It is a grassroots fire, hazmat, EMS, and technical rescue services system that is founded on the neighbor helping neighbor ethic—that has grown into an agreement between seven participating states. The services are at no cost to the receiving state, other than consumable items. The system works for the member states, but it may not for all states. This is yet another example of a unique regional, state, or local-level approach to preparedness that is counter to the federal top-down push of compliance objectives and national planning scenarios; and it remains unexplained in a top-down, one-size-fits-all system of performance measurement advocated by the federal government.

*c. Role of Standardization.*

Communication limitations and interoperability between responders on September 11 have been well-chronicled. There was a lack of information exchange between the working crews inside the Twin Towers and the observations made outside about the structural integrity of the building (9/11 Commission, 2004, p. 298), and the command posts of the law enforcement agencies and the fire department. There were further communications difficulties with the overloaded and compromised system being used (9/11 Commission, 2004, p. 299). Besides the problems encountered during a large-scale response within a single agency, in mutual aid problems can expand to include equipment and systems, procedures and protocols, environmental conditions and culture. Along with these construct problems, training, licensing, and qualification of responding personnel make incident objectives difficult to achieve. Therefore, a standardized approach to response is necessary to order needed resources and ensure interoperability; the NIMS and the NRF addresses this need and view standardization as an imperative.

One method of standardization is to develop capabilities that are preplanned, qualified, ready to respond, and have a defined mission capability. Mission-ready packages (MRPs) serve the resource needs for everyday emergencies and during major disaster responses. The National Emergency Management Association (NEMA) has advocated for the use of MRPs for large-scale events using the Emergency Management Assistance Compact (EMAC); however, having pre-determined mutual assistance from neighboring communities is a strong component of daily responses that exhaust local capacity. At the statewide level, it is imperative to have these local systems networked to serve as the foundation of an intrastate mutual aid system and the resources from which to make up the EMAC MRP. MRPs make response and recovery capabilities more readily identified, more easily deployed, and more effectively used (NEMA, 2011, p. 43).

As directed by President Bush in HSPD-5, Secretary Tom Ridge of the newly formed Department of Homeland Security rolled out a consistent nationwide approach to federal, state, local, and tribal governments to work effectively and efficiently to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity (The White House, 2003a). In 2004, the National Incident Management System became that national, unifying, standardized approach for managing incidents at all levels. The NIMS includes a core set of concepts that standardizes terminology, technology, and coordination covering the incident command system (ICS). The ICS includes standardized training, classification of resources, qualifications, and the collection, tracking, and reporting of incident information. The NIMS and the ICS form the interoperability that was lacking on 9/11 (NIMS, 2004, p. 2).

Emergency management must also use standards as a method to measure the organizational effectiveness of the enterprise against metrics that deliver outcomes that are meaningful to the people they serve. It answers the question: Is the organization “doing things right” by meeting national goals, while meeting the needs of its constituents? The National Fire Protection Association (NFPA) has developed this standard to establish a common set of criteria for all hazards disaster/emergency management and business continuity programs. It provides the fundamental criteria to develop, implement, assess, and maintain the program for prevention, mitigation,

preparedness, response, continuity, and recovery. The standard applies not only to public sector, but also not-for profit, non-governmental organizations (NGO), and private entities on a local, regional, national, international, and global basis (NFPA 1600, 2010, p. 5).

The National Emergency Management Association (NEMA) has developed a voluntary self-assessment and peer-assessment system called the Emergency Management Accreditation Program (EMAP). EMAP prepares organizations for and carrying out of all emergency functions to minimize injury and to repair damage resulting from natural, technological, and human-caused emergencies and disasters. EMAP defines “emergency management” in the broadest sense, meaning it encompasses all organizations with emergency/disaster functions in a jurisdiction, rather than only one agency or department. This system includes organizations involved in prevention of, mitigation against, preparedness for, response to, and recovery from disasters or emergencies. The process not only establishes the minimum acceptable performance criteria for an emergency management program, but also establishes a means for strategic improvement (EMAP, 2013, p. 1).

#### **d.      *Communication***

Communication challenges in the emergency management environment exist beyond incident response; they also include steady-state communication aimed at building partner relationships, developing strategies, and promoting cooperation between response agencies. During an emergency, there are three essential types of information that need to be conveyed. First, there is the information that goes to the public to provide an understanding of the event, personal safety and self-help information, and knowledge about the response effort. Additionally, there is information provided to the executive and legislative leadership to convey detail about the specifics of the response and recovery efforts. The third area is the internal information to the response partners, providing a common understanding of the collective and coordinated efforts to bring the event under control and to a successful conclusion.

It is important to keep the executive and legislative leadership informed of the situation. Proactive executive disaster declarations locally and statewide, forward

leaning deployment of needed resources, and rumor control are some important reasons to have state and local leadership engaged and involved in the message to the public. A clear, concise, and coordinated message will better manage the response and recovery effort, and the public reaction to those disastrous events. As a part of regular emergency management crisis communications, supporting the state's governor with timely and accurate information for delivery to the media is an imperative for reassuring the public during the response and assisting communities in the recovery effort.

The third area is internal communication to the response partners through the dissemination of incident action plans, development of situational reports, and coordination from a common operating picture. When developing situational awareness, the goal is to paint a picture for those who will make critical decisions at the strategic level. Initial reports are often incomplete and, at times, inaccurate since early field-level size up is limited in scope when access is restricted or reported through discipline-specific sources. Radio traffic is often times inundated with the life and property priorities, and public service communication systems become overloaded and are subject to failure. However, as the incident unfolds that common operating picture must be developed by subsequent reports requiring additional detail that comes from critical thinking about the next steps, anticipation of resource needs. Emergency managers must exercise "professional curiosity" about the event based on experience and the connectedness and fusion of information pieces (Personal communication with Maj. Gen. Donald Dunbar, September 2, 2011). The speed of which to develop the common operating picture leads to optimal resource management initially for life safety needs and ultimately for the resilience of the affected community.

Emergency managers must think ahead to gaps and needs not only in the response, but ahead to the recovery; consideration and planning should be given to changing weather conditions, cascading events, effects on critical infrastructure, and reactions to and effects on the public. To make these important decisions, it is imperative that emergency management organizations use a common operating platform through a web-based, virtual emergency operations center (EOC) to connect responding agencies and to coordinate incident priorities. Many states have virtual EOC's (e.g., E-sponder, EMNet and Web EOC), which post status information and significant events on local

activities (e.g., utility outages, current incident actions, and future incident action plans). Of the five principles of the national response doctrine, two of them—engaged partners and unity of effort—support the need for enhanced, collaborative, and coordinated communications. It must also include the public.

*e. Public Information, Education, and Responsibility*

Advanced public information and timely emergency messaging during an event will result in better outcomes. It is predicated on pre-incident planning, development of multiple communication avenues, and establishing relationships with the media. Northern Illinois University had a plan in place for communicating emergency information—it was developed in the wake of the Virginia Tech campus shooting. They understood the importance of immediate notification through a direct chain of command, rather than waiting for a crisis team to be established (Peters, 2010, p. B-24). Communicating early to the public provides the best opportunity to avoid cascading events, greatly assists the response efforts, and enhances preferred outcomes. The City of Joplin successfully used both traditional mechanisms and social media to communicate emergency information to the public and conduct outreach to support long-term recovery (FEMA, 2011a, p. 16). Press briefings and conferences can serve multiple purposes beyond the obvious one of disseminating information to the media. Some other purposes include calming fears of the community, educating the public, asking residents for tips, communicating with suspects, and even communicating with responders (Murphy et al., 2004, p. 93) when planned communication systems fail.

Providing timely information must be supported by the knowledge of how one should react with the information provided. FEMA and most states and territories, as well as many counties and municipalities, have developed Internet-based information resources in the form of the Ready.gov sites. These websites offer preparedness information for children, families, businesses, and specific needs of local and county governments, and how to get involved in community preparedness (FEMA, 2012). However, emergency managers cannot rely solely on passive information sources; the preparedness message must also be taken to the public. One such program focuses efforts on elementary school students to create the preparedness responsibility, called Student

Tools for Emergency Planning (STEP). The STEP program is an emergency preparedness education project developed by FEMA and the American Red Cross that was piloted in 2008 in six New England states. Students at the 4th, 5th, and 6th grade levels are armed with strategies for dealing with various types of emergencies and will share this awareness with family members. In 2012–13 school year, Wisconsin will have over 10,000 students in more than 270 classrooms enrolled across the state (ReadyWI, 2012). To create a culture of preparedness in the community beyond these programs, emergency management public education and messaging must also instill a sense of public responsibility during disasters.

Emergency management cannot be “all things to all situations” and therefore must be horizontally integrated with partners that are not only with the traditional non-profit organizations, but also organizations in the private sector and the faith-based community. Furthermore, these partnerships play a key role in the community during a disaster by taking responsibility for self-help and preservation during an incident in light of the demands placed on responders. Emergency preparedness is also a public responsibility, and the emergency management should deliver programs that support the notion of shared responsibility—that is, the public’s preparedness “response” and “ability” to react properly. With programs such as STEP and information resources in the Ready.gov that states deliver, public messages can be effectively developed and delivered during the steady state and emphasized and acted upon during the emergency.

The steady state provides the opportunity to communicate intended goals to the response partners and manage expectations the public has during a disaster. Communication, both internally and externally, is the binding element of a holistic approach to the response and recovery effort, and to positive outcomes. While the number of visits to a website, contacts made, and the number students enrolled in a program can be a measureable output of funding and staff allocation, the impact of these efforts is difficult to define in quantitative terms.

## **B. PROCESSES**

The steady state also provides an opportunity to improve processes by which inputs are used in the most-efficient and effective way possible. It provides a mechanism for improvement. Processes or organizational activities are used by an organization to process inputs and resources to produce intended outputs and impacts intended by the organization. A process is no more than a series of steps and decisions involved in the way work is accomplished (DoN, 1990). Process can range from something binary as resource inventory to as complex as risk management and development of operational capability based on the consequence of the risk. Other less tangible processes are aimed at avoiding, preventing, and reducing problems before they happen. In the sections ahead, some of the critical processes—risk management, mitigation planning, gap analysis, education and training—are reviewed as they relate to assessing and enhancing the performance of the emergency management system.

### **1. Risk Management**

#### ***a. Risk Management Process***

The homeland security lexicon identifies risk as potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences (Lexicon, 2010, p. 24); risk management is a process by which risk is identified, and prevention and resistance measures are taken (or acceptance of risk). Local and statewide mitigation planning is a continuous improvement process for risk prevention in our communities. Risk analyses have been used to manage, build, and right-size resources and capabilities. They have been used to determine funding allocations for removal of structures in floodplains, place hazardous materials assets, and strengthen earthen dams. Risk assessment in emergency management is a process based on standards that can be found in NFPA 1600 (2007, p. 5) and the Emergency Management Accreditation Program (EMAP, 2010).

Hazard identification and disaster mitigation planning have been part of emergency management hazard-risk assessments across the country for many years. Section 322 of the Disaster Mitigation Act establishes a requirement for states to have a



hazard mitigation plan. To receive federal mitigation funds and certain other disaster assistance, states must develop and submit for approval to FEMA a standard hazard mitigation plan that includes details of the planning process, the state's natural hazards, risk assessment for the identified natural hazards, a mitigation strategy, and a plan maintenance process (State of Wisconsin, 2008, p. 1–4). Risk assessments made in the pre-1990 era were primarily threats from natural disasters and man-made accidents; global threats were part of a national security policy that was outside the lane of emergency management.

Dating back to 1980 with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, and later with the Superfund Amendments and Reauthorization Act (SARA), emergency management planners have undertaken hazard and risk planning (Superfund, 1986). Out of the Bhopal, India, methyl iso-cyanate release that killed 4,000 and permanently injured countless others brought the Emergency Planning Community Right-to-know Act (EPCRA) in 1986. EPCRA was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals (EPA-EM, 2011a). Regular reporting and off-site emergency planning have been performed by Local Emergency Planning Committees (LEPC) for understanding chemical hazards in the community, developing emergency plans in case of an accidental release, and looking for ways to prevent chemical accidents (EPA-EM, 2011b). 9/11 brought a new element into this risk management and planning equation.

Complex, chaotic, and cascading events, brought about by interdependencies and asymmetrical attacks, have ushered in a new realm of planning in emergency management. The difference is active versus passive planning. Planning a 60% solution early knowing the gaps is better than waiting for the 100% solution later when the critical event is at one's doorstep. Beginning the journey by addressing gaps found in the unexpected twists and uncertainties will place the organization in a better position to address future challenges. Think of risk planning as a cycle as opposed to an end state; the plan must be a living document on a regular cycle of improvement—improvement that will be revealed in regular assessments of the environment, risk analysis, planned exercises, and real-life events.

***b. Risk Assessment***

The post-9/11 risk environment is not only from natural and man-caused disasters; it is from acts of terrorism. It is from an enemy that is probing, adaptive, and patient. The analysis must therefore also be adaptive and be proactive to meet the changing environment. So too, emergency management planning must also include this non-traditional threat and have the capability, capacity, and coordination to effectively address these catastrophic events. Rather than rigid approaches that apply only in certain scenarios when specific assumptions are true, a focus on capabilities will enable integrated, flexible, and agile all-hazards efforts tailored to what we know are unique circumstances of any given threat, hazard, or actual event.

The current federal and state programs in place should be merged to build unity of effort and a common strategic understanding among all the partners (NFPA, 2007, pp. 5–6), so FEMA can identify the top threats and hazards facing the country and the consequences of those threats and hazards should they occur. Existing state hazard mitigation processes and Urban Area Security Initiative (UASI) assessments could serve as potential models upon which to base this statewide threat and hazard risk assessment process. The statewide risk assessment would be aggregated within each FEMA Region to develop the regional risk picture (Task Force, 2010, p. 37). Once developed, the risk assessment process would be a tool for organizations at all levels of government to identify, assess, and prioritize their natural and man-made risks (FEMA, 2011b) and focus on capabilities necessary to address those events to pose the greatest risk to a state.

The value of these assessment systems to emergency management is the process that facilitates the identification of needed capability and the resource gaps that must be filled. Performed collectively, the process builds a shared perspective for strategy development and decision-making around risk. It is from that common assessment picture that emergency management will be able to track their year-to-year progress toward closing the gaps and assure sufficient operational capability, capacity, and reliability for a major disaster. To keep the risk assessments from becoming overburdening to state, tribal, and local organizations, the process should begin by leveraging existing hazard mitigation work and GIS data already in use. However, it should be conducted in a

standardized manner to make aggregated results meaningful in a federal assessment system. Under PPD-8, the proposed national Threat and Hazard Identification and Risk Assessment (THIRA) process under development is currently awaiting the completion of the statewide and regional assessments. The result will hopefully provide a national identification and implementation plan, and the answer to the preparedness question Congress is seeking.

In 1999, the National Oceanic and Atmospheric Administration (NOAA) developed a comprehensive Community Vulnerability Assessment Tool (CVAT) that now has been updated and is called the Roadmap for Coastal Risk. The previous CVAT can provide a basis for the homeland security THIRA since it is based in a methodology for state and local governments to conduct community-wide vulnerability assessments to a range of hazards. It would not, however, specifically address climate change (NOAA, 2011). The CVAT focuses on mitigation outcomes, and it addresses community-wide issues with multiple disciplines; it assesses the potential for long-term impacts and provides a foundation to develop sustainable solutions (Bender, 2002, p. 137, Green, 2003, p. 3). According to the CVAT, the following are the seven major areas of consideration for benchmarking community preparedness:

Hazard Identification

Hazard-Risk Analysis

Critical Facilities Analysis

Societal Analysis

Economic Analysis

Environmental Analysis

Mitigation Opportunities Analysis

The development of the Strategic National Risk Assessment is an important first step in moving the risk analysis forward and determining the capability needed to address it. However, further analysis at the regional and community level will help communities better understand their risks and form a foundation for their own security and resilience (DHS, 2011d, p. 7).

The THIRA process identifies the threats that pose the greatest harm to our states and our Nation, understanding that it may be defined differently based on state and local challenges and environments. Therefore, assessments and performance requirements are unique based on those differences. The state and local THIRA assessment called for today is currently under development, but eventually all the THIRAs will be aggregated into a national assessment called for in the Strategic National Risk Assessment under PPD-8. John Madden, who chairs the Mitigation Committee for the National Emergency Management Association (NEMA) and a member of the PPD-8 Committee, said the mitigation influence will prevail throughout the five focus areas of PPD-8 (personal conversation at NEMA's 2011 EM Policy & Leadership Forum on October 5, 2011). Future mitigation will not just include traditional prevention, protection, and avoidance measures, but efforts toward educational awareness and proactive approaches to engage the whole community.

*c. Scope of Mitigation*

The negative effect that a disaster will have on a community will largely depend on the resilience of the community through its prevention efforts. To address prevention, states have established multi-hazard mitigation plans designed to assess their unique hazards, develop action plans, and take actions to mitigate those hazards. Hazard mitigation is an effective prevention tool, defined as any action taken to reduce the chance of a natural hazard from happening, or to reduce a natural hazard's impact on people or property when it does happen (FEMA, 2010c). Anecdotally we know that every dollar spent on mitigation returns four dollars in cost avoidance. The old adage, "an ounce of prevention is worth a pound of cure" certainly is a golden rule in emergency management mitigation since it focuses on reducing the effects of future disasters.

The traditional approach to mitigation identifies activities that fall into various categories and priority levels, cover different geographic areas, and address different types of hazards. The organization, contents, and data in these plans are driven in part by the planning requirements developed by the FEMA and the hazards that have historically occurred in a state or region. Hazards can include major storms, flooding, dam breaks, extreme temperatures, and disease outbreaks. Hazard mitigation planning

helps communities to develop consensus around actions to reduce or eliminate the long-term risk to human life, health, safety, and property from hazards (WI-HMP, 2008, p. 1–3). FEMA has a software product that performs risk modeling called Hazus-MH. This software product is a nationally applicable standardized methodology that estimates potential losses from floods, earthquakes, and hurricane winds (FEMA, 2010c). It utilizes the multi-layered Geographical Information System (GIS) interface, which provides a visual look at the areas of risk with a number of layered information platforms. While the Hazus-MH is limited to a few disaster scenarios, it has the potential to expand into other uses (e.g., modeling risk during an incident in real time). The role of mitigation in emergency management has expanded beyond this narrow focus on community hazard reduction and future damage prevention.

Today, mitigation has a much larger application. It is broadly defined as measures to protect and minimize threats to life and property, or lessen the impact of future disasters (NPG, 2011, p. 9). Mitigation in the PPD-8 plays a more encompassing role in that mitigation seizes opportunities for continuous improvement in the five mission areas of homeland security and seeks to remove barriers to strategic success. The NPG goal emphasizes the need to meet the threats with capabilities from wide-ranging sources that pose the greatest risk the nation—and mitigation reduces the consequences of those same risks. In this newly expanded scope, the core of mitigation remains on the community’s resilience and survival of its quality of life.



Figure 4. Scope of Mitigation (From NAFSMA, 2012, p. 10)

Since mitigation delivers the greatest “bang for our buck,” why would mitigation be the first area for financially-stressed governments to eliminate? As stated by Michael Balboni, New York’s point man on preparedness in both Republican and Democratic administrations, “As your budget shrinks, the first thing that goes out the door is emergency management, the first thing (Gormley, 2012, p. 21A).” One needs only to take lessons from the levy system in Louisiana before Hurricane Katrina in 2005 and the rebuilding along the shore on the east coast with so called Superstorm Sandy in 2012 to see the results of marginalizing mitigation. It takes considerable political will to place much-needed funding in a mitigation initiative when most people either never experienced a similar emergency or do not believe will ever happen to them, or when it limits economic development in an attractive area. Unfortunately, communities and elected officials have short-term memories and grander economic development plans, so the lessons learned during disasters become lessons observed that will be destined to repeat. However, healthy risk management programs take emergency management lessons from the process of identifying and mitigating risk, to the preparation to fill the gaps in capability and seize mitigation opportunities when they surface. It starts with the gap analysis and moves into long-term community planning.

#### *d. Gap Analysis and Capability Planning*

Capability-based planning will continue to be an important process in emergency management. The right capability and the sufficient capacity necessary to meet the scope of a disaster that is likely to affect a state. The 2011 release of the PPD-8 seeks to move away from burdensome requirements of capability-based planning, and instead build the key (core) capabilities common to disaster events that the nation needs to confront any challenge. Brian Kamoie, senior director for preparedness policy on the White House National Security Staff, asserts that capabilities defined by specific and measurable objectives are the cornerstone of preparedness (Pittman, 2011b).

## **2. Preparedness Process**

Based on the results of the THIRA process, an assessment of capability is required to meet the immediate actions to save lives, protect property and the

environment, and meet basic human needs. Response also includes the execution of emergency plans and actions to support short-term recovery (FEMA, 2008b, p. 1). The Gap Analysis Program is the method by which gaps are identified and a strategy developed to fill community and state-specific capabilities based on the new core capabilities found in PPD-8. Besides the THIRA and gap assessment, there are other emergency management functions that support resilience.

*a. Education, Training and Exercises*

Once the assessment, strategy development, and planning processes are complete, the education process begins. Education, training and exercises occur both externally and internally to the emergency management organization. The message externally should be prevention and self-help. During a major crisis or disaster, there will not be enough responders for every need, so educating the public, the business community, and potential volunteers ahead of time pays dividends during the event. These are force multipliers during the crisis phase of an incident.

Public education and prevention programs are designed to change the dynamics and empower people during a disaster to becoming engaged and supportive of a better outcome. Ready.gov on the national level and states' readiness programs and campaigns are designed to send succinct messages to the public: "Make a Kit, Develop a Plan, Keep Informed and Get Involved." These are activities that are simple personal strategies for the general public to achieve. They follow the 3-3-30 Rule – that is that a crisis message should consist of three short sentences that convey three key messages in 30 words or less.

Internally to the emergency management organization, the key asset is the people within, and therefore investing in knowledge capital supports the management processes (i.e., THIRA) strategic and catastrophic planning, and developing situational awareness. Having a continuing education program develops the organization's knowledge capital and enhances a continuous improvement program. It improves internal thought and public service as precursors to key management processes, and develops critical thinking skills during crisis management and mission leadership. Creating learning organizations is an important foundational ingredient for successful outcomes.

Many training educators understand the premise that skills are perishable and must be refreshed periodically. Training and exercising allow personnel to hone and reinforce those skills learned during low to moderate stress environments. An essential goal of emergency preparedness for a major emergency is that first responders be able to respond swiftly with well-planned, well-coordinated, and effective actions that save lives and property, mitigate the effects of the disaster, and set the stage for a quick, effective recovery (Jenkins, 2006, p. 4). The HSEEP process ensures that this goal is met and that gaps and lessons-learned transition to an improvement plan that can be tracked over time rather than repeated.

### **C.     OUTPUTS**

Outputs are usually the tangible goods and services produced by the major processes in the organization. Within this discussion, they are supporting measures and goals of an intended capability, and ultimately for the outcomes sought in national preparedness. According to Business Dictionary, output is a calculation, recording, or tabulation of the results of an activity, effort, or process that can be expressed in numbers—that is, quantitatively (BusinessDictionary, 2012). Outputs provide the metrics that Congress is looking for in answering the preparedness question: How prepared is the country to meet risk facing the nation? Outputs are frequently misunderstood as indicators of success of an organization or program, and are oftentimes wrongly used to determine it.

For example, having a number of radios with common frequencies having the capability of interoperable communication alone does not manifest itself into communication interoperability. It takes a combination of ubiquitous equipment, a plan of action, training, and people accepting and embracing it to make it work. Interoperability must be defined in terms of who must communicate with whom, and only then will the outputs of true interoperability be evaluated. Does a line firefighter need to talk directly with a patrol officer? What interoperability is critical to operations and safety? Does every radio need to provide access to a thousand frequencies? It is not the equipment and the technology that fail in interoperability; it is people who fail to plan



strategically, define goals, practice in the real world, and participate in a holistic way that are the impediments to true success.

## **1. Output Metrics**

The measure of outputs can be used to manage the effective use of inputs and the efficient development of processes, which determines whether an organization is working effectively and efficiently. Outputs can also be used as a determinant of fulfilling the mission by establishing measurable objectives that support strategic goals that ultimately support the mission of the organization. The areas that produce outputs and support strategic goals follows:

- Risk Analysis and Gap Assessment
- Vulnerability Reduction
- Prevention and Preparedness Activities
- Catastrophic Planning
- Capability-building and Delivery
- Training/Exercise
- Benchmarking Standards
- Continuity of Operations

An emergency management output that delivers on a strategic benchmark is a state's all-hazards emergency response plan. The development of a plan begins as a process based on guidance found in the Comprehensive Preparedness Guide 101; it is combined with the collaborative input expertise within the emergency management organization, response partners, and subject matter experts. Processing the plan requires management of meetings, training, and exercising, and development of a continuous process of improvement and revision. The plan takes leadership to build relationships that will be vital when the plan is activated; it requires the cooperation and visualization of the end goal that the emergency support functions work in concert, as well as an acknowledgement of a common mission.

## **2. Credentialing Personnel and Typing Resources**

Since September 11, 2001, and highlighted again by Hurricanes Katrina and Rita, there has been a critical demand for a common authentication credential that first responders can use for all-hazards event response and recovery efforts (COFRAC, 2008, p. 5). Having personnel credentialed ahead of an incident will promote rapid response and recovery operations in the event of a terrorist or other all-hazards incident. Credentialing first responders across a state in compliance with the same minimum standards, as well as with federal standards, will facilitate movement across jurisdictional boundaries during a catastrophic event.

The process of credentialing personnel produces a standardized, measureable output of homeland security and emergency management funding inputs. The output indicates an individual responder's collective of knowledge, skill, certification, and physical ability to perform certain job functions at an incident—this collective capability is known as qualifications. Additionally, a credential (physical-presented card) will contain information about those qualifications and skills, so that incident command will immediately know the types and quantities of the resources available on-scene. The result is a safer, more efficient, and more effective deployment and utilization of resources at the incident site.

Credentialing personnel and assets achieves a standardized, measureable output; it provides a measure of trained and qualified personnel that, collectively with the proper resources, are the components of capability. Outputs alone, however, do not indicate how the capability performs during an actual emergency event and, therefore, one can only draw speculation about preparedness and risk-informed capability level achieved through these investments. In the absence of a real-world event, validation through exercises under conditions that closely match a likely event is the only way to measure the effectiveness of these investments.

## **3. Validating Capability**

As stated earlier, outputs permit an emergency management organization to assess progress, which is Congress's underlying preparedness question. What quantitatively has the public received for the dollars spent on emergency management and homeland

security? However, outputs only give an indication that the funds were used appropriately. Capability validation can only be achieved through exercises and real-world events. In the absence of real-world events, exercises provide the least costly method of validation. Exercise planning must include resources that would sequentially arrive and be required to work together. Training and exercising in a silo only reinforces an unrealistic expectation, and worse, leads to coordination challenges in the field. For example, the local fire department must engage and coordinate with a hazardous materials team, who in turn must coordinate efforts with the National Guard's Civil Support Team. Validation is more encompassing than merely checking off skills and procedures; it is about understanding capability and working together as an incident escalates; and it is about holistically planning and exercising for the at-risk challenges the county is facing.

As the nation moves into the future, addressing risk and strategically building the capability to address it are homeland security's chief deliverables (output); they provide a vehicle for gauging whether we are doing things right with investments in money and time. Former DHS Secretary Chertoff asserts that the greatest risk we face is to fail to address adequately the [natural, technological, and terrorist] threats to life, safety, and security of the nation (Chertoff, 2009, p. 123). To that end, the outputs of risk planning and risk management, through protective measures, mitigation opportunities, and collaborative response networks, will be the benchmarks to address the risks the nation faces, and will lead to the impact of national resiliency.

#### **D. IMPACTS**

Impacts are the hopefully positive results for those whom the organization intended to benefit with its programs. Impacts are the qualitative gauge that tells us if we are doing the right thing. Are the inputs and processes effective? Are the outputs leading to the intended effect on the public, the economy, and the environment? The true impact of preparedness is the results after the disaster; however, those types of evaluations are to be avoided wherever possible. Conventional wisdom tells us that prevention, protection, and mitigation activities are many times more important than the response and recovery emphasis. Stopping a fire from starting in the first place is better than having to respond

to one and dealing with the negative result of it happening. The irony of positive impacts of preparedness is that the public becomes apathetic toward funding it as the incidence is reduced. The public may begin to question the utility of it or eliminate it.

In emergency management, impacts are found in two focus areas: in preparedness of people and capacity, and in the ability to help a community to arrive at the new normal after a disaster. Impacts can be measured in terms of people who accomplish positive effects on people's lives; in conditions that can be changed to improve safety, security, stability, and pride; in protection and mitigation activities to prevent future losses through public education and information to react proactively; and by creating advocates through leadership that enhance the results—force multipliers.

These critical impacts in the emergency management enterprise are based on the relationships created before an event occurs—when an emergency strikes, knowing your partners ahead of time will have a greater impact on the end result than meeting them for the first time at the emergency. Improved thought is arrived at through ongoing learning, including enhancements to knowledge, understanding, perceptions, attitudes, and behaviors. In short, it is creating a culture of preparedness. Developing regional collaborative networks provides collectively what each jurisdiction cannot provide separately. Regionally collaborative approaches in government have long been heralded as a preferred method of working more effectively and efficiently. Part of the common wisdom of emergency management is that communication and collaboration are facilitated by personal familiarity, not just institutional contact (Waugh and Streib 2006, pp. 136–37). How can one measure the impact of these concepts? Impacts are measured qualitatively (that is, by opinion and by intrinsic value to the stakeholder).

Organizational impact is achieved when stakeholders believe they are getting value from the organization. Value is the perception of intrinsic worth, and it provides a benefit to the individual making the judgment. Value creation in emergency management is increasingly becoming a concept that has been embraced in service delivery. To maximize value creation and deliver greater impact for stakeholders, emergency management professionals must be visible leaders at all times, be transparent to establish public confidence and trust, and communicate directly to the public needs—these will be keys to success during a major emergency. Intrinsic value can also be measured outside

of the emergency event, in terms of mitigation and recovery, which builds communities that are resilient in the face of a disaster.

## **1. Resilience Impact**

Resilience has a rich background in various disciplines, including psychology, ecology, environmental science, engineering, management, and organizational behavior research. As a concept, it continues to evolve and to be applied to new areas. More recently, it has been put to use in the domains of emergency preparedness and hazards, where a resilience perspective can improve efforts to prepare and respond to risks. In this area, the resilience cycle—which includes mitigation, preparation, response, and recovery—serves as a guide and can help officials distinguish between physical and social systems that are highly resilient and those whose resilience is low. In a high-resilience system, risk is distributed, challenges are commonly understood, and response efforts are coordinated. Such systems are furthermore embedded in risk communication and strategic risk management principles. Conversely, in a low-resilience system, risk has a disproportionate impact on certain sectors, and a society struggles to cope with and rebound from a crisis. The main challenge, thus, lies in crafting high-resilience societies (Zurich, 2009, pp. 1–2).

## **2. Community Resilience**

The definition of *resilience* differs somewhat in the literature, but generally includes measures that make it possible for key infrastructures, economic activities, and other parts of society to rapidly “bounce back” after a disruption. It also includes *mitigation* measures to limit potential damage to facilities, supply chains, and other elements of the infrastructure so they can continue to function (Jackson, 2008, p. 3). Cascio (2009) views resilience simplistically as “[t]he capacity of an entity [...] to withstand sudden, unexpected shocks, and (ideally) be capable of recovering quickly afterwards.” The Resilient Communities Research Consortium’s (RCRC) Community Engagement Resilience Framework (CERF) focused on the development of key indicators of community resilience along with measures of the indicators that produce information from which an assessment of resilience status can be made (Gragg et al.,

2012). The RCRC and others (Buckle et al., 2000, pp. 11–13, Cutter, 2008, pp. 4–10, The White House, 2008, p. 13, Chandra, 2012) identify several key factors that have been recognized as interpreting or affecting community elasticity:

- Emergency/Community Planning
- Capacity and Reliability Status
- Community Support Services
- Social, Cultural and Natural Resources Status
- Infrastructure Systems Redundancy
- Preparedness and Mitigation Levels
- Information and Communication Resources
- Leadership Commitment

Resiliency can be achieved by either creating redundancy or increasing flexibility. Adding mitigation measures will buy a lower, but more certain benefit by preventing only *some* of the damage from attacks [or other disasters], but doing so predictably across the many different ways in which threats might become manifest (Jackson, 2008, p. vii). The essence of resilience is to contain, adapt, and recover from a major disturbance or an unexpected negative event. In a comprehensive emergency management system, it is about strategically planning and holistically developing the capability and capacity needed to respond to disasters and to deploy those resources during an emergency event. The true measure of community resilience during a disaster is time (Catlett, 2010). It is the time from the disastrous event to the point where a newly formed sense of equilibrium and certainty returns—often called the new normal.

## **E. LEADERSHIP AND MANAGEMENT**

The organizational title “emergency management” lends itself to a finite process to meet the challenges or objectives posed by a disaster—one cannot solely manage through major events. Emergency management is also about leadership. It is not only the catastrophic planning, organizing, and categorizing resources or implementing and evaluating exercises; emergency management is also about learning from and collaborating with others, gaining cooperation and focusing efforts, mobilizing resources, and motivating performance. Both management and leadership are necessary during a

disaster and contribute in different ways to produce the outcomes needed to support the people affected and minimize the consequences of an incident. Management and leadership are as integral to outcomes as the two wings are to an airplane—without both, the plane does not fly.

Collectively, emergency management and leadership work to build strategic relationships, enhance cooperation, and develop regional partnerships. Together, they enhance and improve the methods and processes by which the needed resources are placed in the field of operations. More important than the individual capabilities developed is the collective capacity and reliability of the resources in the response networks that are realized. The resiliency goal established in PPD-8 is about developing capacity that is adaptable, flexible, prepared, ready, and motivated to produce the quantitative outputs and the qualitative impacts that support the outcomes needed. As stated in the QHSR, it is the effective response and rapid recovery that supports the Ensuring Resilience Mission (2010, p. x). The resiliency mission is equally anchored in an enterprise that values both management and leadership.

Leadership provides the intangible assets that cannot always be measured. Emergent leadership finds relationships that provide key decisions, innovative, creative, and novel thinking during chaotic incidents. Leadership also acts as the catalyst for high quality service to the stakeholders, motivates employees to seek continuous improvement of processes and capabilities, and utilizes information technology to enhance the service delivery (Kaplan and Norton, 1996, p. 3). Leadership develops the knowledge capital and communicates the vision to its stakeholders—both internally and externally to the organization. However, if leadership provides the way forward, management provides the methods to make it happen.

On the management side, activities include catastrophic planning, organizing, and categorizing resources, as well as implementing and evaluating exercises. The results of these management activities are capabilities-based planning for high consequence events. Regional response partnerships develop the resource organizing needs; however, the resources require interoperability. To manage these needs, FEMA has developed resource typing and position task books for credentialing personnel. The goal of the guidance is to facilitate multijurisdictional coordinated responses. Through this guideline, DHS/FEMA

encourages interoperability among federal, state, local, territorial, tribal, and private sector officials to facilitate emergency responder deployment for response, recovery, and restoration (FEMA, 2011, p. 1). These planning processes and systems have served the emergency management mission space well, although today a new leadership-management model is necessary for today's challenging emergency management world.

### **1. New Leader-Manager**

The public demands emergency management-leadership that is credible, capable, timely and visible. Credible leaders are those individuals that people believe in and trust during a disaster. They are honest, competent, forward-thinking and motivational (Kouzes and Pozner, 2000)—the difference this makes during disasters is very evident. Engaged leadership that communicates with the public with honesty and compassion will affect community outcomes and will positively affect the crisis phase of the incident. It is very important to have a trustworthy leader who is visible, compassionate, prepared to offer a plan that has solutions, and who can be counted on to communicate to the affected community. During the 9/11 terrorist attack in New York City, Mayor Rudy Giuliani was known as a good manager, he prepared himself to provide the leadership the city and the country needed at that moment. In Giuliani's words:

Leaders may possess brilliance, extraordinary vision, fate, even luck. Those help; but no one, no matter how gifted, can perform without careful preparation, thoughtful experiment and determined follow-through. (Giuliani, 2002, p. 52)

Equally important is leadership in the steady state, and it is not exclusively in one individual. Achieving efficient and effective national preparedness requires an array of government and non-government organizations to coordinate their planning, collaboration, and response to anticipated terrorist acts (Carter, 2003, pp. 17–36). Emergency management *leaders* are in a unique position to influence and accomplish such collaboration of effort across organizations. Individuals with the skills to collaborate across jurisdictions and disciplines, whether it is in multi-agency settings, public, or private, are termed “meta-leaders” (Marcus, Dorn and Henderson, 2005, p. 44). In this time of diminished funding, emergency leadership and management require individuals



who can provide direction, facilitate change, and achieve results through efficient, creative, and responsible use of resources (Armstrong and Stephans, 2005, p. 11).

Emergent leadership also is not always defined by one person—a single leader cannot be everywhere at all times. In emergency management and homeland security, emergent leadership comes from an ongoing process of organizational preparedness and succession planning. What the emergency management team delivers together is greater than the sum of the individuals on the team—leadership is distributive mix of the meta-leaders. The new leadership-manager promotes and develops the holistic approach for solving broad-based complex problems by breaking down organizational barriers to success, and effectively develops a coordinated response to a crisis or an emergency.

## **2. Holistic Approach**

To develop a successful strategy, it must be based on the best information available, and it must be comprehensive in the use of the responding personnel. For that reason, emergency management or response organizations must work collaboratively and cooperatively in pursuit of common goals. Traditional governmental and non-government organizations are increasingly aware of the need for an all-hands approach. Without a holistic effort in disaster management, even a well-conceived operational strategy will be destined to coordination challenges during deployment. The stakeholders must be linked both horizontally in complementary action to achieve incident priorities, and also vertically as an event expands or cascades to levels beyond the original scope and complexity. A holistic approach develops coordinated redundancy for contingency reasons without creating competing duplicity at the expense of a finite number of resources, especially in the early stages of the incident.

The social landscape of the nation is constantly evolving, and the needs and expectations placed on emergency management have changed as a result. The traditional view of the recovery mission is the “brick and mortar” efforts—that is, to replace, rebuild, or improve through mitigation—is now joined by emotional and psychological recovery efforts of a community. Today’s 24-hour news cycle significantly increases the connection to disasters. In large scale disasters, instead of providing generic counseling to the victims, quick recovery and return to normal routine has shown to be the most

effective in reducing stress in the community (Silove and Steel, 2006, pp. 121–125). In partnership with public health and non-governmental agencies, emergency management can assist with mental health resilience prior to a disaster. By building and sustaining disaster preparedness; by promoting social support, mental health alternatives, and information-sharing during a disaster; and by enhancing it with rapid response and recovery systems, the holistic approach is able to deliver the best outcomes.

The military has come to know the value of a holistic approach in the national defense strategy. Since 1947, the service branches—Army, Navy, Air Force, and Marines—were united under a single Joint Chiefs of Staff (JCS) chairman. The Joint Forces Command (USJFCOM) supports unifying policies, strategies, and actions in a comprehensive approach that synchronizes, coordinates, and, when appropriate, integrates military operations with the activities of other governmental and non-governmental organizations (NGOs) to achieve *unity of effort* (JCS, 2011, p. I–8). USJFCOM embraces the goal of having military leaders connect with civilian counterparts to leverage the diverse powers of government, resulting in a shared interagency situational awareness among partners and creating a common operational picture (USJFCOM, 2012). Most recently, President Obama recognized the value of having the National Guard and the civil support effort as part of the JCS. With the signing of the 2012 National Defense Authorization Act (Greenhill, 2012), Air Force Gen. Craig R. McKinley became a member on December 31, 2012. A state’s National Guard plays a pivotal role in connecting federal assets to local communities where the assistance will be needed during an incident of national significance.

Within emergency management, the holistic approach is manifested in FEMA’s Whole Community. The “all of community—all of government” concept is an all-hands approach to disaster response and recovery. This approach is not new or innovative; it rises out of the original neighbor-helping-neighbor mindset when disaster strikes in the community; however, it provides a focus for emergency management stakeholders to develop relationships, plans, and systems. It was apparent during the Joplin tornado in 2011, where the federal, state, local, and private sector joined with volunteer and non-profit agencies to a contributed response effort when the city and Jasper County were quickly overwhelmed (FEMA, 2011a, p. 10). By focusing on regional collaboration and

partnering; developing operational capacity and ensuring its readiness; and standardizing response systems, communications, and information flow – irrespective of the level of government, whether from the public or the private sector - will create the foundation for these core capabilities. (NOT SURE WHAT THIS MEANS) The true impact will be realized when all stakeholders, the supporting systems, and ready capabilities are working together toward common goals—“a holistic approach” to preparedness and response.

### **Summary**

This section took a wide view of the many working parts of emergency management and homeland security as a whole, as well as what has worked successfully toward achieving outcomes. The goal of this section was to organize these successes, both deductively and anecdotally, into mutually-inclusive compartments. The outcomes logic model was used as a starting point for the organization of the key points in the successes revealed in the research. The outcomes logic model has practical application in preparedness, since it is used in many government approaches and private industries to measure performance and assure constant improvement. These successful methods and systems are arranged by *inputs*, whether they are people, funding, or raw materials; *processes* that incorporate and mold the inputs into tangible or reportable *outputs* that are measured and analyzed; and an intended *impact* internally or externally to the organization. The measurable outputs are used to indicate performance and suggest anomalies that require attention; the impact is measured by customer satisfaction and the sense of value the organization creates.

This section also explored the organizational effect of the leadership-management relationship on the overall outcomes delivered; how leadership and management are mutually-inclusive as to the effect on overall performance, but mutually-exclusive of what purpose and requirements each delivers on. Leadership goes first to point the direction, and management makes it happen. The holistic approach in emergency management is a necessary example of the need for sound leadership and management. Leaders understand that no single entity or organization responds to a disaster alone; leaders break down barriers and find solutions that achieve outcomes. Managers make practical sense of these solutions and build systems, coordinating resources, and

improving processes to ensure the goals established are reached. Collectively, the leader-manager develops the strategy or methodological approach to ensure success and to deliver value. The next section will explore the importance of strategy and how it fits into the model being constructed.

## **IV. ANALYSIS OF HOMELAND SECURITY STRATEGY**

Strategy development has been integral to military, national, and, in the past 11 plus years, homeland security. Its historical use is well-documented based on the need to organize the resources of an entire group or nation. The first Homeland Security Strategy, released in 2002, provided focal points for the nation to follow, and it provided guidance for the newly emerging challenges posed by the age of terrorism. Inclusive of today's strategy to protect and prevent harm to the nation, is building the capability to respond to a disaster and for our communities to survive and thrive in the life afterward. The term in our discourse is resiliency of our communities and the nation. While the initial Homeland Security strategy barely touched the concept of community resilience, the Quadrennial Homeland Security Report (2011) and the National Security Strategy (2010) emphasize it

Carl Folke, a social-ecological scientist, asserts that in nature resilience is beyond merely the capacity to absorb shocks and still maintain function; it includes the capacity of a system to continually change and adapt, yet remain within critical thresholds; it is the long-term capacity of a system to adapt to change and continue to develop (2006, p. 259). For our nation to survive, our homeland security strategy must also have the capacity to absorb an assault and survive, while having the adaptability to change and evolve over the long term. The strategy must evolve as the global strategy on terrorism and the cascading complexities from natural and man-made disasters increases. The strategy is simple: adapt or perish. Charles Darwin's Theory of Evolution puts resilience into perspective: *survival of the fittest*—not necessarily the strongest or the smartest—the *fittest* for the environment. It takes an all-hands, properly aligned, and forward thinking strategy to maintain the fitness for today's homeland security environment.

### **A. IMPORTANCE OF STRATEGY**

Strategy is generally thought of as a pattern of consistent behavior over time. It is a mix of intended and realized behavior. It combines visions of the future with emergent adaptations (Bellavita, 2006, p. 15). In its most basic business terms, is a systematic pattern of actions and approaches designed to serve the organization's stakeholders and achieve its objectives; strategy is in part deliberate and part adaptive (Thompson and

Strickland, 1999, p. 25)—strategy is a method of developing a business plan. In private industry, strategic management is not merely managing business processes or measuring outputs; strategy is about leadership instilling organizational purpose and delivery of valued results, as well. It is not just how an organization is going to achieve a position; it is about *why* it is important to its stakeholders. A state's homeland security and emergency management strategies must be crafted to achieve outcomes that are both proactive (intended) and reactive (adaptive). At the same time, they must build needed capability and create value for the state.

A distinction must be drawn between operational strategies and strategic management. Operational strategies, by definition, are the systematic directions (current methods) and control of operational processes (Certo, 2000, p. 556). This type of management is contained within ongoing monitoring of initiatives, projects, and coordination of workgroups, as well as tactical operations for emergency events—it is an ongoing, perpetual process. Many homeland security strategies are organized around operational strategies rather than strategic management. Conversely, strategic management is a process that ensures the future viability and success of an organization. It is characterized by a forward-looking conceptualization of the future given the intelligence and the environment that exists today. It combines sound management practices enhanced by leadership principles.

Within the mission space, a vision provides the guiding direction for purposeful action, and the strategy provides the method for its development. The intended outcomes are first developed from strategic mapping into themes or the “pillars of success.” These themes are converted into strategic broad-based goals and finally into measurable objectives. These specific objectives become the benchmarks for tracking progress and setting future performance objectives. In the post-9/11 era, these performance objectives must be flexible and account for the changing environment, so continuous improvement and adaptability must be considered because they drive change in strategy.

A sound state strategy is composed of five essential, interrelated components grounded in the mission space. A homeland security strategy must align and balance the state's inputs, processes, outputs, and impacts to a vision of a safe, secure, and resilient

homeland where the national interests, aspirations, and way of life can thrive (QHSR, 2010, p. 3). The strategy is a pathway for what to do and how to do it by aligning people and resources with goals and objectives. A strategy provides benefits to the organization because it focuses and verifies the mission and ensures that the organization is providing value to its stakeholders. How has our homeland security strategy evolved?

With the paradigm shift out of 9/11, the 2002 Homeland Security Strategy was based on three goals: prevent terrorist attacks, reduce vulnerability, and minimize damage and recover from successful attacks (OHS, 2002, p. *vii*). In 2004, the 9/11 Commission followed up with a number of recommendations to accomplish those goals. In 2007, the Strategy evolved somewhat with four goals: prevent and disrupt terrorist attacks; protect our people, critical infrastructure and key resources; respond and recover from incidents that do occur; and strengthen the foundation to ensure long-term success (HSC, 2007, p. 1). In 2005, Hurricane Katrina and the following Post Katrina Emergency Management Reform Act in 2006 brought about another paradigm shift and realization that there is more to securing America than the threat of terrorism.

Earlier President Bush, and increasingly now President Obama, has been evolving the term “resilience” in their description of national and community preparedness—it has become an integral term in the homeland security discourse. In 2010, the Quadrennial Homeland Security Review established a strategic framework and developed five mission areas: preventing terrorism, securing our borders, enforcing immigration laws, safeguarding cyberspace, and ensuring resilience to disasters (QHSR, 2010, p. *x*). PPD-8 defines resilience as the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies. PPD-8 does not seek to eliminate risk, but rather to effectively manage it and minimize the consequences. To achieve the resilient nation goal, one could conclude that our strategy and our resources must be focused on two themes: that of preparedness and prevention before disasters and that of response and recovery afterward.

## **B. STRATEGIC ALIGNMENT**

From a business perspective, strategic alignment is a process of bringing the actions of an organization’s business divisions and staff members in line with the

organization's planned objectives. In emergency management, achieving this means having to bring many organizations, whether it is government, private sector, or volunteer organizations, together to achieve the strategic goals in a holistic manner. Having a comprehensive strategy for homeland security and emergency management will assure that these disparate organizations are working toward achieving their part in concert in pursuit of the goal identified in PPD-8 of ensuring a secure and resilient nation. Strategic alignment is more than the strategy itself; it is the understanding of how the development of personnel and the use of resource inputs relate to the processes and network systems that make things happen. It promotes alignment of human capital with the organization's mission, goals, objectives, and initiatives by means of effective analysis planning, budgeting, measurement, and continuous process improvement.

## **1. Strategic Planning**

For a sustainable, ongoing strategic planning and evaluation process to become institutionalized, broad-based stakeholder participation is necessary; it enables a high degree of proactive coordination of strategic divisions, funding, and knowledge capital; and it diminishes any potential disruptive effects of periodic external demands for planning documents, goals, objectives, measures, and evidence (Greenfield, Williams and Eiseman, 2006, p. 29). However, strategic planning in the public sector must answer these additional questions:

- What is the desired social outcome, or “public good” we will achieve? (Goals)
- How do we expect to contribute to, or influence, the outcome? (Strategies)
- What resources and support will be needed to implement the strategy? (Initiatives)

### ***a. Strategic Perspectives, Themes and Impact***

The first step in the strategic planning process is identifying the organizational perspectives, themes, and results intended. This step validates the mission and the values of the organization. It considers every critical influence on the organization, the environment in which it exists, and the value it delivers. This step also includes the traditional evaluation of strengths, weaknesses, opportunities, and threats



(SWOT). The governmental and not-for-profit arena differs from the business world in that decisions are made for the public good as opposed to the corporate bottom line; and stakeholders and communities replace the shareholders and investors. In governmental and not-for-profit organizations, public and stakeholder needs are considered with other external considerations (i.e., the economy, mandates and the political environment).

Through the evaluation of the influences on the organization, strategic thought, innovation, and discovery emerge. What emerge are the confirmation of the organizational mission, new or confirmed perspectives on service, the need to deliver stakeholder value, and a long-range view of the future. In this step, themes and results that emerge from the process are the initial phase of development of a high level strategy. These become the foundation of a roadmap for success. Figure 5 provides one conceptual representation for the inherent considerations and systematic processing for strategy development in homeland security.

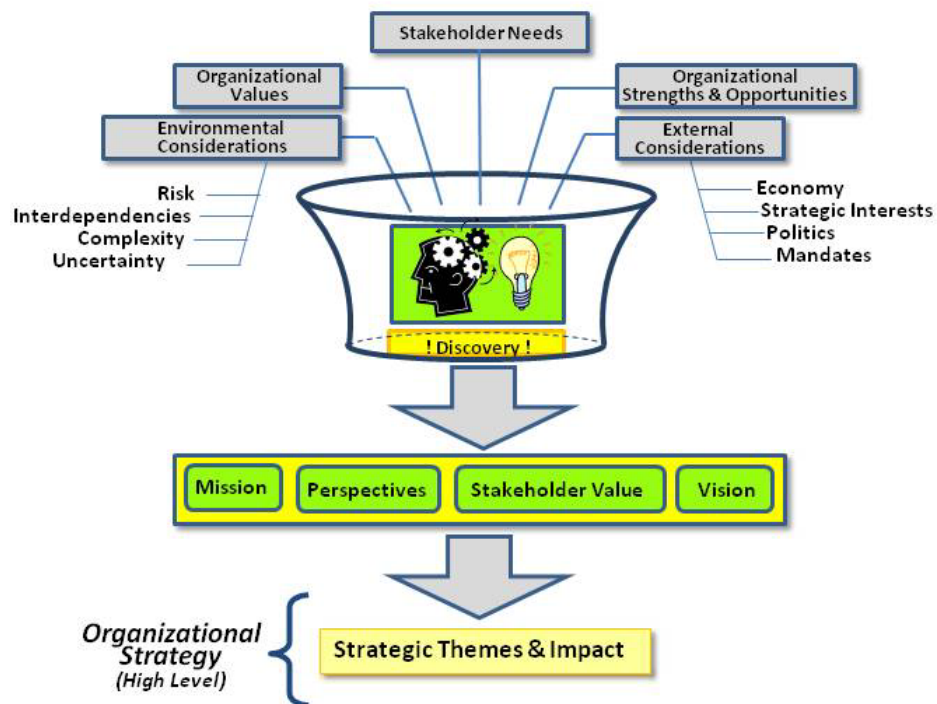


Figure 5. Strategy Development Process (Rohm, 2009)

***b. Strategic Mapping***

Another way of developing strategic themes and results is to assemble a strategic map. A strategy map provides a visual framework for an organization's strategy—it shows how and where the strategy will create stakeholder value. The strategy map also develops the links between intangible and tangible assets with identified objectives having positive cause-and-effect relationships. It describes how an organization creates value using both its tangible and intangible assets, and it provides a framework by which important management decisions can be made (Kaplan and Norton, 2004, p.1–2). Out of strategic mapping, themes emerge to become areas of concentration in the overall strategy, and these areas of concentration ensure the long-term value creation and success of the organization.

Many statewide homeland security strategies miss this step in the development of their state's strategy. These strategies have goals aimed at present-day orientation rather than future orientation. The early national strategy focused on present challenges, specifically prevention of terrorist attacks, reducing vulnerability to terrorism, and response and recovery from attacks (The White House, 2002, p. 3). In other words, it was *all terrorism, all the time*. The research has found that many state strategies are founded on capabilities-based planning, response, and recovery, while there should be an equal share of the strategy devoted to mitigation, preparedness, and resilience-building.

In Figure 6, a possible strategic map for emergency management shows a framework to focus initiatives, activities, and funding. In the map, one can view the links between tangible and intangible inputs and processes, and the interdependence in support of a value-added system. The processes are again linked to intermediate output goals, and finally to strategic goals derived from the impacts of those outputs. A RAND Corporation study on strategic planning and evaluations for National Center for Injury Prevention and Control found two similar overarching themes that support this assertion. First, that coordination, communication, and capacity-building play a central part in processes and outputs; and second, that changes in knowledge, attitudes, and behavior inputs relate to intermediate customers, the results of their efforts, and final customers (Greenfield, Williams and Eiseman, 2006, p. 13).

Figure 6. Strategic Mapping (Kaplan and Norton, 2004)

The strategic mapping exercise visually identifies areas that an emergency management organization should focus on to develop outcomes that support a secure and resilient nation. In inputs, the focus is on people—creating a learning organization and developing avenues for inclusion of stakeholder ideas and thought. The broader and more diverse the input, create better chances of creating the notion of shared responsibility for a positive outcome during a disaster. In processes, the focus is on development of tools to enhance capability and direct the initiatives of the emergency management enterprise. Outputs are the measureable factors that result from inputs and processes—the plans, the communication systems, and capability—to support the mission of the emergency management enterprise. Often times, metrics can be used to monitor progress and successes. The impacts are realized when an emergency or disaster occurs, when the preparation of people to positively react to emergency, or for resources to effectively mitigate a crisis in a time-sensitive response. By identifying the focus areas, performance

measurement is not always possible; nevertheless, strategically performance measurement at some level is necessary to access progress.

## **2. Strategic Performance**

Emergency management exists for the coordination of stakeholders in the enterprise for the benefit or outcome for the public during a major incident. The typical thought is the coordination of response assets during a major incident; however, the opportunities and time spent managing an incident is minimal. The greater share of the mission lies in the planning, preparation, and mitigation for future emergencies. Even though a performance check mark can be placed for having a plan or the purchase of a home in a floodplain, it is difficult to measure performance or to see the impact of these efforts other than through those future emergencies or cost avoidance comparisons to similar previous emergencies.

As mentioned earlier, certain positive outcomes are predicatively based on practices and methodology, which cannot be measured. Therefore, methods to assess the enterprise must be developed. Effective emergency management organizations regularly take time to ask and answer a few critical questions:

- Are we achieving our mission expectations?
- Have we connected with our stakeholders?
- What is our present position on preparedness?
- Where should we be in the future?
- How do we close the gap based on risk?
- How will we know if we are succeeding?

Many organizations utilize initiatives to break down goals and objectives into service requirements to fill gaps and motivate people to buy into the vision. Initiatives are the call to action, and it takes leadership to sell the “fit” of the initiative and put it into the context of the future position of the organization.

### ***a. Strategic Leadership***

The aim of strategy is to link ends, ways, and means; the aim of strategic leadership is to determine the ends, choose the best ways, and apply the most effective

means—it is a people-centric plan of action. Strategic leadership is the thinking and decision making required to develop and mobilize the plan (Guillot, 2003). Strategic leadership is leadership with purpose; it employs strategic thinking. Strategic thinking focuses on finding and developing unique opportunities to create value by enabling a provocative and creative dialogue among people who can affect an organization's direction—it is the input to strategic planning. Strategic thinking is a way of understanding the fundamental drivers of an enterprise by challenging conventional wisdom (CFAR, 2004). In its most basic sense, strategic thinking is about analyzing opportunities and problems from a broad perspective and understanding the potential impact they have. Strategic thinkers visualize what might or could be and take a holistic approach to day-to-day issues and challenges (Harvard Business, 2007).

Strategic leadership is the core of any strategy; it includes the most essential element that brings a plan of action to fruition—it focuses on the people carrying out the plan. It creates an environment that draws out an all-hands approach to solving problems. Emergency management professionals are in a unique position to bring individuals of diverse backgrounds from all levels of government—from public to private sector, to volunteer and faith-based organizations—under one umbrella to solve today's homeland security challenges. These emergency management professionals are meta-leaders. Meta-leaders prevail because they take the time to listen and learn from the disparate groups in emergency management and understand the challenges facing the nation; they envision the larger picture of how individual agencies must interact and cooperate in service to rapidly react and respond to lessen the effects of the disaster. A meta-leader has to gauge the risk in moving forward with a good plan before the groundwork is laid, and understand the consequences when an incomplete plan is forced (Marcus, Dorn and Henderson, 2005, p. 48). We cannot fully define leadership without the context in which it is demonstrated; however, the importance cannot be overstated. Moreover, leadership has no quantitative value that can be placed on it. A leader may be considered poor by his/her peers, but could show leadership in a particular event. Leadership, therefore, is not subject to a system of metrics, but it is a valued element of a successful emergency management program.

***b. Strategic Initiatives***

Every task, initiative, process, purchase, and exercise must support and be in alignment with the mission, with an eye on the evolving vision of the future. Initiatives are projects and programs that contribute to or improve an organization's strategic goals and its mission, but are targeted to a specific area where performance is lacking. Initiatives are the foundation of the strategic plan; it is an organization's call to action. When initiatives are presented, they must answer a need; they must identify who/what will benefit short and long term from the initiative; and what does it look like in the entire performance equation or the organizational mission. In short, how will we know when we have arrived?

Emergency management and homeland security organizations must be keenly aware of the lack of performance measurement. Performance can only be measured by an actual event or through full-scale exercises; they provide a glimpse into capability and capacity building in action. The Homeland Security Exercise and Evaluation Program (HSEEP) is a five-phase process that provides the tools needed to plan, design, conduct, evaluate, and improve capability within progressive operations-based exercises. The National Governor's Association asserts that by conducting preparedness exercises and readiness assessments, capability and response plans can be assessed for relevant homeland security and emergency management incidents (NGA, 2010, p. 15). Effectiveness and efficiency are quantified by the Homeland Security Exercise and Evaluation Program (HSEEP) through preparedness exercises (HSEEP, 2007, p. 20); however, HSEEP is still organized and based on capabilities-based planning and not the outcome delivered by the capability.

***c. Strategic Management***

Strategic management is an active process that achieves future-oriented goals to secure a preferred position for an organization. Once the organization's better position is defined, strategic management establishes of a plan of action, organizes its operating divisions around the plan, and then implements the plan. For the plan to achieve success moving to the preferred future position, strategic management measures, monitors, and evaluates progress to ensure it is reaching its benchmarks. Measurement of

performance answers two overarching questions: Are we doing the right thing, and are we doing it right? Woodbury posits that “measuring effectiveness is not always done at the level of final outcomes. Often, the processes and systems that *lead* to preferred outcomes are measured when *ultimate* outcome measurement is impossible (Woodbury, 2005, p. 2).” This would suggest that we can measure the tangible inputs (i.e., funding and training hours) and processes and outputs (i.e., showing productivity with response plans and mitigation projects) to see if we are doing things right. Conversely, there exists a higher degree of difficulty measuring intangible inputs and impacts in the pursuit of the “preferred outcomes.” There is extreme difficulty in answering the question: Do we have the proper level of capability, coordination, and leadership in place to make a positive impact on a community’s recovery after a disaster strikes? Performance measurement and continuous improvement can be characterized in the flowchart in Figure 7.

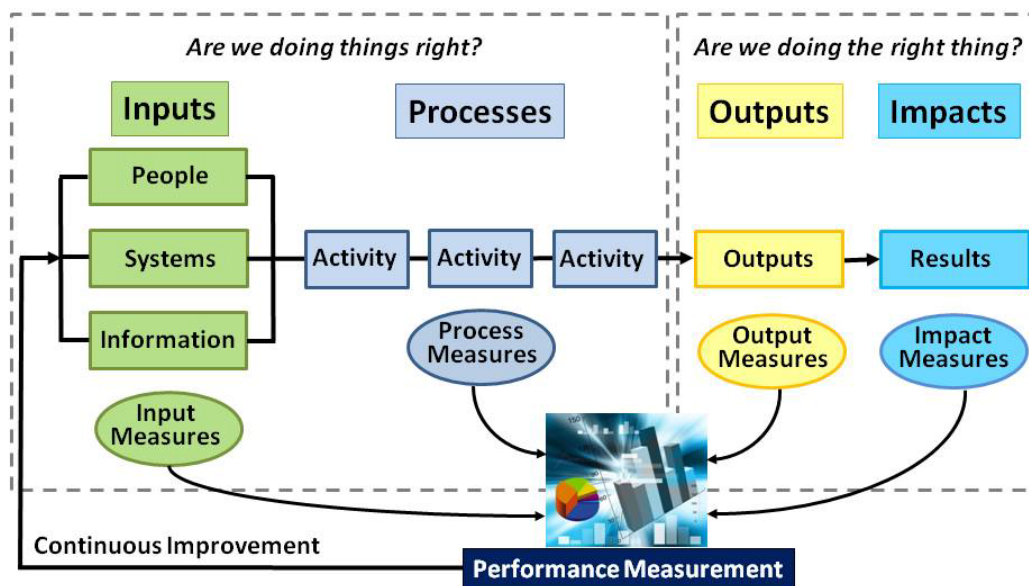


Figure 7. Performance Measurement for Outcomes

The continuous improvement process is fundamental to strategic management to measure progress and, ultimately, to validate the strategy used to reach the preferred future. From a purely management perspective, “measurement ensures completion.” However, performance measurement is an organization-wide commitment to individual and organizational learning that supports systems improvement and shared responsibility, having an equal share of leadership—at all levels of the organization. By creating

systems and processes that support these activities and integrate them into the fabric of daily operations, companies can manage their learning more effectively (Garvin, 1993, p. 2). Process improvement, however, is not just fixing what is broken, but reevaluating the purpose for the process and discovering the root causes of failure. When an organization pursues Total Quality Management, it undergoes an introspective process that takes a system-wide look at the tools, methods, materials, and people that are integral to the process. The goal is to add value and efficiency to the organization while optimizing doing things right and doing the right thing.

In emergency management, processes such as catastrophic planning, mitigation programs, and gap analyses are important continuous improvement areas that support statewide preparedness. Process is also important in response and recovery operations for training responders, standardizing requests for assistance, and for conducting damage assessments for supporting operational capacity. These operational processes must be standardized and consistent for resources to arrive when needed and work in concert. Process can be evaluated by visually laying the steps out, where redundancies and anomalies are exposed, and inputs and sequence improvements can be made. Process improvements add value to the organization.

Thus, far, this paper has treated emergency management and homeland security as two separate, but interactive missions—what may start as a homeland security mission may end up being an emergency management mission (Holdeman, 2009). With new drivers of change—social, technological, environmental, economic, and political—our future may change the current definition of each to match the reality that has developed from today’s work. The 9/11 events started the homeland security journey, but strategic leadership will show the way into the future. It is because of today’s leader-managers who contribute to FEMA’s Strategic Foresight Initiative that we will have insight to the future. Through today’s foresight and planning, strategic leader-managers create the future.

### **C. RESILIENT STRATEGY DEFINED**

A strategy defines a comprehensive method of achieving a beneficial or preferred preparedness position, and strategy contains inherent flexibility that a goal-oriented plan



does not (BusinessDictionary, 2010). Strategy differs from a purely goal-oriented planning process in that planning is a method to achieve a pre-defined specific scenario or set of circumstances; however, strategic planning identifies a best course of action to achieve capabilities that meet the challenges of a wide-range of scenarios. Given the uncertainty of the homeland security threats and preparedness problem, the preferred outcome is to achieve broad-based, adaptable operational capabilities. A statewide strategy applies the tested and proven statewide capabilities-based homeland security through a risk-based strategic planning process. The process consists of four basic steps:

1. Develop a vision based on forecasting.
2. Assess risk and identify capability gaps.
3. Develop and implement the State Strategic Plan.
4. Synchronize funding with goals and objectives.

In the past five years, the term “resilience” has entered into the homeland security discourse. In simplistic terms, resilience indicates an ability to “bounce back” after sustaining a setback. There have been many attempts at defining the term “resilience” within the homeland security enterprise, and the Department of Homeland Security stresses resilience as a strategic goal. The DHS defines it as “the ability to adapt to changing conditions and prepare for, withstand, and rapidly recover from disruption” (DHS Risk Lexicon, 2010, p. 26). A strategy of resilience anticipates and mitigates risks, but also addresses the consequences of a disastrous event and the amount of time taken to recover. A strategy is needed that takes the homeland security enterprise beyond the capabilities approach that holistically meets the challenges faced with asymmetrical actions of terrorism and an all-hazards response to natural and man-caused disasters. The recommended strategy necessitates the fusion of analysis and intelligence; of capability and response capacity; and of collaboration and coordination.

Much has been written on the doctrine of a capabilities-based strategy, especially within the private sector and the military. At least since 2005, homeland security professionals have begun to embrace the concept as a mechanism to meet the challenges caused by terrorism, as well as natural and man-made disasters. The National Preparedness vision calls for coordinated capabilities to prevent, protect, respond to, and recover from all hazards to balancing risk with resources and need (NPG, 2007, p. 1). A

strategy based on capabilities enhances preparedness, response, and recovery, which is integral to the resilience of the nation (Romano and Anderson, 2010, p. 9). The Government Accounting Office (GAO) supports the claims that having strategic plans developed by regional organizations can be effective tools to focus resources and efforts to address problems (GAO, 2004, p. 4).

However, the shortfall of CBP alone, based solely on capability development, does not accomplish the planning and operational realities of a catastrophic incident. Capability must be tied to mission, function, or objective (DHS Risk Lexicon, 2010, p.16) in a comprehensive approach; an approach that is holistic; and an approach that is in concert with all stakeholders—public sector, private sector, and citizens at large. The difficulty with CBP alone is that it promotes vertical integration within organizations and agencies, rather than the development of complementary, collaborative redundancies across the homeland security enterprise. Resilience is instead achieved by engaging emergency management practitioners in preparedness and response during trans-incident activities, such as of prevention, protection and mitigation, and during incidents with rapid response, coordination, and recovery activities. The 9/11 Commission pointed out that the September 11<sup>th</sup> “attacks revealed four kinds of failures: in imagination, policy, capabilities, and management.” (9/11 Commission, 2004, p. 339). Capabilities are only part of the equation. While the commission report and this statement was written largely about the pre-9/11 intelligence and counterterrorism failures, the same argument could have been made about the state of national preparedness and response to all emergencies.

Beyond the ability to resist, absorb, and recover from a disaster found in the definition of resilience (DHS Risk Lexicon, 2010, p.23), a resilient strategy also has the *capacity of an organization to recognize threats and hazards and make adjustments that will improve future protection efforts and risk reduction measures*. To integrate resilience to a homeland security enterprise, the strategy must build capability that is able to protect its infrastructure sufficiently, being adaptable and scalable to all types of emergencies, to restore a community, state, or region, to as near normal as soon as possible. A resilient strategy builds this capability over a period of time, incrementally making additions, adjustments, and improvements in a repeating process. The final element that determines the resiliency strategy is basing on a risk-informed methodology. It must be noted that the

risk of a terrorist attacks, natural, or technological disasters cannot be totally eliminated; a nation's quest to eliminate it is flawed in that it will ultimately result in harming what it is attempting to protect (Chertoff, 2009, p. 155) —acts of nature, disease, and geo-political disasters will happen. Even if possible, the cost of a risk elimination policy would not be able to be sustained for any length of time, as it would eventually bankrupt the nation.

Emergencies and disasters are inherently plagued with many variables and unknowns, so the strategy must have the necessary flexibility and adaptability to address these variables and the complexity they create. Therefore, today's strategy must be smarter and it must identify the "best option" to adapt to changing conditions and prepare for, withstand, and rapidly recover from these destructive events. Several common attributes of the most resilient systems seem to be emerging when the following attributes are addressed:

- Broad-based participation, collaboration, and deliberation;
- Multi-layered and polycentric organizational structures;
- Networked organizational structures with mutual accountability built into how the network functions;
- Content-rich and meaningful interaction regularly occurring across the network; and
- Facilitative and/or catalytic leadership (in sharp contrast with authoritative or control-oriented leadership) (Armitage, 2008, pp. 16–7 and Palin, 2010, p. 10).

These are fundamental components of an effective resilience strategy, and emergency management professionals are in the best position to make this strategy work. Only when most of these attributes are reflected in strategy, operations, and tactics will our homeland security effort generate a long-term comparative advantage. These attributes and activities contribute to the overall knowledge of the system and the environment, and the learning of the organization and the individual (Palin, 2010, p. 10). When an organization's attitudes, actions, and culture are consistent with the attributes above, the resilience of whole system is enhanced. This underscores the need to establish the learning organization.

The NRF builds upon *scalable, flexible, and adaptable coordinating structures* to align key roles and responsibilities *across the Nation*. It describes specific authorities and best practices for managing incidents that range from the serious but purely local, to large-scale terrorist attacks or catastrophic natural disasters (NRF, 2008, p. i). In support of civilian response to a terrorist attack or major disaster, the NRF set the context for a coordinated response while the Stafford Act provided the statutory authority for federal disaster assistance from military resources in support of the civilian authorities. The NRF forms the basis and impetus for the development of a resilient strategy.

## **V. SYNTHESIS OF THE OUTCOMES-BALANCED FRAMEWORK**

Thus, far systems to provide a metric-based reporting summation by homeland security professionals have fallen short of providing a clear picture of our nation's preparedness level. Rating systems that have been developed and that are in use today have focused on the outputs of the funding appropriations (i.e., equipment and training delivered to the responders, and self-assessed capability developed). Capability-based planning, originally developed by the military, enabled military agencies to identify program needs, allocate resources, and track activities and outcomes. It was adopted by the federal government as a method to begin the process of homeland security. Capabilities-based assessment system is widely identified in states' homeland security strategies for addressing the new security and response threat, but Congress is now pushing for a preparedness status report. From the research and analysis, a model is synthesized that can be derived to support state strategies and performance tools in use.

Capabilities are means to accomplish a mission, function, or objective (DHS Lexicon, 2010, p. 16). Capabilities give a tangible understanding of what resources can be brought to the fight, but they do not provide the complete picture of preparedness. There are intangibles that can only be measured in the real world and some that may never be measured (i.e., prevention and readiness activities), but are part of the "big picture" of homeland security preparedness. The combination of tangible and intangible assets needs to be assessed. Do the current rating systems give the answer? What lessons learned from the private sector experience in performance management can be used in the homeland security environment?

### **A. BALANCED SCORECARD RELATIONSHIP**

In the private sector, the Balanced Scorecard (BSC) has been used successfully for measuring performance (Niven, 2003, p. 4); it defines a measurement tool for financial and customer results, operations, and organizational capacity. The BSC, developed in the early 1990s, provided a look at the results of operations (qualitative) in the form of customer satisfaction and the analytic benchmarks (quantitative) in the form

of financial returns (Kaplan and Norton, 1992, p. 73). The BSC offers the following benefits:

- Designed to measure non-financial performance;
- Aligns vision and mission with customer requirements and day-to-day work;
- Manages and evaluates the business strategy;
- Monitors operation efficiency improvements;
- Builds organization capacity; and
- Communicates progress to all employees (Rohm, 2002, p.1).

The benefits of the BSC can be seen first in the emphasis on people and systems. Employee and knowledge capital, supplier inputs, operational processes, and quality improvement are value-added, controllable areas in an organization. Second, production outputs are measurable; they are utilized for managing performance, identifying areas of improvement, and confirming public stewardship of its allocated funds. However, management alone does not meet the performance picture in homeland security and emergency management. Leadership is also a necessary component to provide direction, facilitate collaboration, and enable people in the organization to realize the strategic themes identified. These preferred results offer value to the stakeholders in emergency management, and they confirm the niche (mission) held by the agency.

How can the BSC answer the preparedness question? The BSC is named for the balance it provides between objective, easily quantified outcome measures and subjective, somewhat judgmental performance drivers of the outcome measures (Kaplan and Norton, 1996, p. 10). The BSC identifies four critical focus areas in an organization: the financials, employee learning and growth, internal processes, and customer need (Niven, 2003, p. 32).

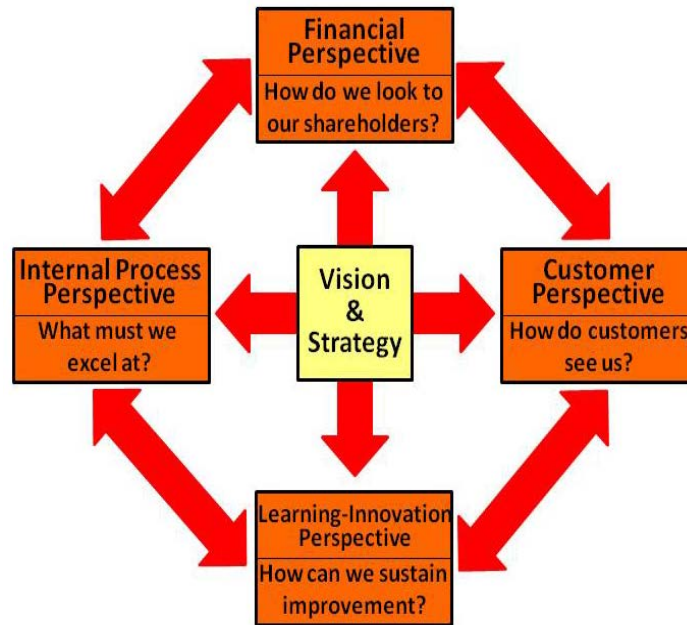


Figure 8. Balanced Scorecard

At the center of the balance is the strategy that provides the method, alignment, and connection from each focus area to the organizational vision (direction) and between each focus area (coordination). Figure 8 is designed for the private sector, where the focus is on factors that keep an organization's bottom line performance high (i.e., good workforce, quality management, expanding customer base, and delivering a profit for its shareholders).

In Figure 9, Paul Niven has developed an adaptation of the BSC designed for government and nonprofit organizations (2003, p. 32). It asserts that, while accountable for the efficient use of funds, government and nonprofit organizations serve a higher purpose—the mission. The mission is the reason a government or nonprofit organization exists. Therefore, the overriding goal and focal point is to achieve the organizational mission. Strategy continues to be the method by which the mission is achieved.

Figure 9. Balanced Scorecard for Non-profit Organization

## **B. DEVELOPMENT OF THE FRAMEWORK**

Figure 10. Balanced Scorecard for Nonprofit Organization – Adapted



Niven offers an adaptation of the BSC for government and nonprofit organizations, and Caudle asserts that the BSC can be applied to the homeland security enterprise (Caudle, 2008). She offers five relationships that must be accounted for in the homeland security BSC: public stewardship, clientele impact, day-to-day processes, human capital support, and enabling support. Caudle's assertion concludes with an underlying question: What scorecard design and organizational factors can respond to the complexities of homeland security delivery partner relationships, and the responsibilities and resulting strategy agreement (Caudle, 2008)? The question posed by Sharon Caudle prompts further research about the efficacy and utility of the BSC in the homeland security enterprise. The BSC, as modified by Caudle, provides an interesting starting point for researching and developing a performance system for emergency management – See Figure 10.

### **1. Relationship to the Logic Model**

As explained in the section on Private Sector Assessment Systems in Chapter III, the BSC was initially developed for the private sector; however, it has relationship to the operations of nonprofit and governmental organizations. In simplistic terms, human capital and enabling support are the same raw material inputs in the emergency management system (i.e., funding, regional cooperation, and an organization that values education). Every organization has day-to-day processes to organize, streamline, and arrange the inputs to produce the end results intended by the organization to support the organizational mission space.

Public stewardship is the effective and efficient use of the inputs, and the trust that the organization will do the things the right way. Public stewardship goes beyond accountability and trust; it is about integrity ingrained in the culture of the organization. Public organizations must never abuse the trust given—if confidence is lost, then no grand strategy or plan will work, no matter how well crafted. The term “integrity” here is not being used in its narrow sense as a synonym for honesty, but in its broad sense referring to the qualities of self-governance, responsibility, moral soundness, adherence to principle, and constancy of purpose (Paine, 1997, p. vii). Nonprofit and government organizations are entrusted by the people to take care of and create a return from the

resources inputs given, combining those with internal processes and producing the measurable outputs that were intended.

While the management of resources given and processes used will produce an effective and efficient system demonstrating the organization is doing things right; it is leadership that delivers the results of the organization and demonstrates that it is doing the right thing and delivering on its mission. Ultimately, this determines whether the organization will continue to exist. Homeland security and emergency management are focused on both outputs that are measurable and provide an indication of performance, yet produce results that make an impact on a community's quality of life. In the simplified BSC, outputs replace public stewardship and results replace clientele impact (Figure 11).

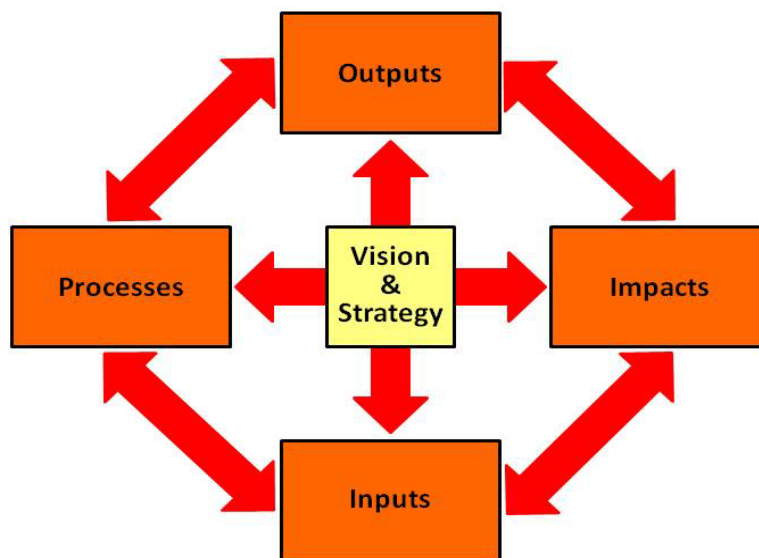


Figure 11. Balanced Scorecard Simplified

Organizations in the public sector have to be equally concerned with delivering on outputs for accountability purposes while delivering value in the results achieved. Outputs provide the feedback needed by our legislators and form the short-term impacts in the logic model. Currently, there are 108 committees, subcommittees and caucuses that received briefings or hear testimony from DHS officials on Capitol Hill (NPR, 2010); by contrast, the DoD with 15 times the budget has one Senate Oversight Committee. That

oversight has prompted the preparedness question of how better prepared is the nation since 9/11. Alternatively, we have anecdotal evidence and direct observation that the homeland security and emergency management investments have produced impacts that have made a positive difference in the resilience of our communities. Therefore, outputs and impacts carry equal weight and belong at the top of the emerging framework in the modified BSC (Figure 12).

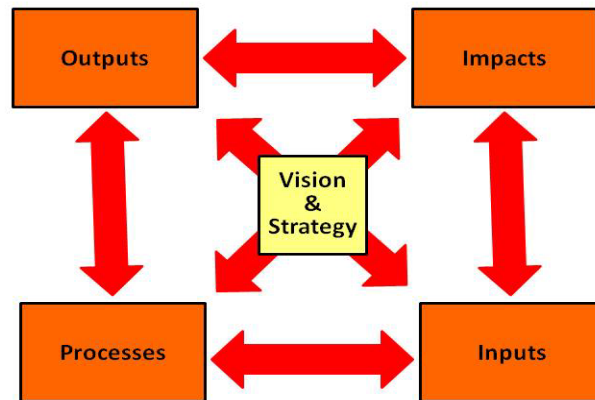


Figure 12. Balanced Scorecard Relationship to the Outcomes Logic Model

As described earlier, strategy is generally thought of as a pattern of consistent behavior over time. It is a mix of intended and realized behaviors. It combines visions of the future with emergent adaptations (Bellavita, 2006, p. 15). In business terms, it is a systematic pattern of actions and approaches designed to serve the organization's stakeholders and achieve its objectives; strategy is in part deliberate and part adaptive (Thompson and Strickland, 1999, p. 25)—strategy is a method of developing a business plan. However, an emergency management strategy is based on strategic issues that emerge, so having a behavior or pattern to identify, adapt, and manage these issues is necessary.

## 2. Organizing Around Strategy

The use of strategic issues management, which addresses the primary strategic concerns of an organization or organizational system, is important in emergency management because of the occurrence of unexpected and surprise events. Koteen (1997, p. 69) argues that the criteria for identifying strategic issues include assessing (1) the

current or potential impact on organizational performance, (2) the perceived urgency in significant consequences, and (3) the impact or interdependency with other issues. Figure 13 shows the interdependency of each functional area in the framework. Strategy, according to Niven, is the “how-to” vehicle by which the vision is realized. The inputs, processes, outputs, and impacts are delivered through the strategy that balances these cause and effect relationships. Therefore, the strategy is both shaped and developed by the strategic issues that emerge, and they are managed by the strategy that has been developed to address them.

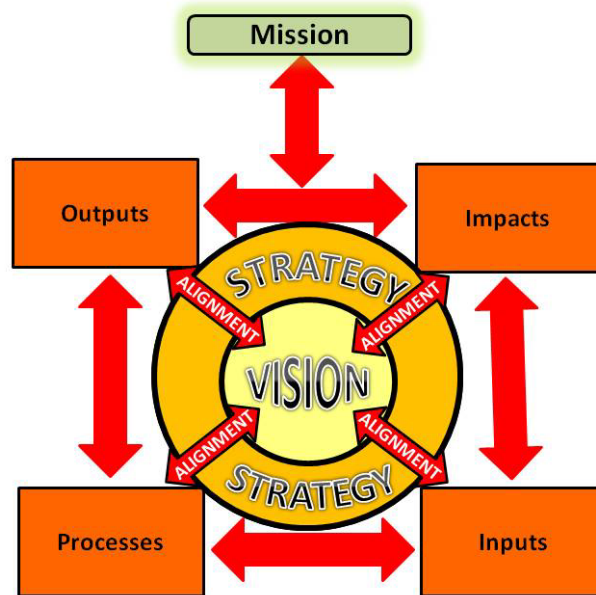


Figure 13. Non-profit Scorecard for Relationship to the Outcomes Logic Model

Because the inputs, processes, outputs, and impacts perspectives are connected to the organizational vision and are interdependent in the strategy, it is difficult to identify a clear continuum, as one would find in an assembly line. Changes in an individual perspective have a ripple effect on the other perspectives; therefore, the key is to keep the perspectives in balance and alignment through the strategy, with an eye on the direction the organization is headed. To address the National Preparedness Goal, the emergency management impact is the ability of our communities to return to the new normal as quickly as possible. To address Congress’s request, the outputs emergency management delivers can be defined by broad-based goals and measurable objectives using a

performance and continuous improvement system outlined earlier. The vision is at the center of the framework and aligns all functional areas of the emergency management organization—the inputs, processes, measurable outputs, and quality of life impact. Every decision, purchase, policy, hire, process, and plan, to name a few, is accomplished with the vision in mind. The strategy is the pattern of consistent behavior over time, both intended and realized, to arrive at the preferred future.

To have a balanced preparedness system, an assessment process must look both retrospectively, in that it assesses how well the system worked in an actual event, and prospectively, to identify those emerging issues that must be anticipated. While learning from real-world experience is important, decision makers need better ways to assess preparedness prospectively to make better choices as to how and where to strengthen it (Jackson, 2008, p. 2). Therefore, the preparedness framework must account for the benefits of *past* performance and lessons learned to gauge whether targets, metrics, and objectives have been met and whether the desired outcomes that were set for emergency management enterprise have been reached. Equally important are the future factors that affect and create community resilience. These factors lead to the value created by the emergency management organization and fulfill its mission (See Figure 14).

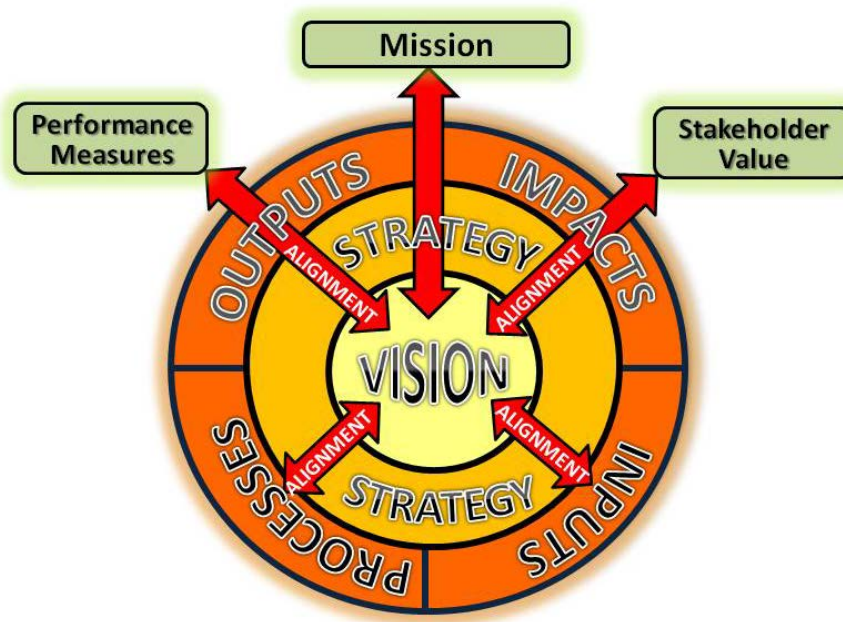


Figure 14. Outcomes Balanced Framework Performance/Value Relationship

### **C. OUTCOMES-BALANCED SCORECARD FRAMEWORK**

The Outcomes-Balanced Framework balances input and processes with outputs and impacts—both quantitatively and qualitatively. Thus, far, inputs such as funding have been accounted for quantitatively, but as a raw material; however, collaborative workgroups, public-private partnerships, regional efforts, volunteerism, and learning organizations do not produce measurable outputs. Instead, they qualitatively lead to information and partnerships that result in success. Anecdotally, homeland security professionals know that not every preparedness effort can be measured. For example, there is no metric for the collaboration between organizations, yet we know that relationships developed prior to an incident enhance the effectiveness of the response. As such, an argument can be made that there are qualitative measures of success that cannot be put in terms of numbers. So how do we reconcile the preparedness checkbook?

The nation's preparedness picture must entertain the notion that not all efforts can be quantified. Then again, smart practices, properly developed initiatives, equipment acquisition, and training under good management will produce outputs that support preparedness. Conversely, when leadership delivers cooperation, building relationships, developing a culture of preparedness, and delivering value to the people being served, it leads to impacts that make a difference when disaster strikes. Management of inputs and processes provides the performance measures Congress is requesting. Leadership can enhance the quality of life challenges in the wake of an emergency or disastrous event and the resilience outcomes the nation is seeking. The Outcomes-Balanced Framework joins the quantitative, assumptions-based performance measurement with the qualitative community preparedness and resilience goals in support of the emergency management mission and stakeholder impact. Strategy aligns the organizational mission with the outcomes delivered with an eye on the vision and impact on our community, volunteer, and professional stakeholders. Impact is realized through the outcomes of a concerted strategy and observed or measured in the time to *new normal* after a disaster. Therefore, it takes equal parts of management and leadership to deliver the homeland security outcomes that benefit the country.



Figure 15. Outcomes-Balanced Framework

As the 10-year anniversary of 9/11 has come and gone, there is a growing call for reconciliation of the preparedness progress so far. With economically challenging times and the uncertainty of future funding, there is a demand for a performance system. The Department of Homeland Security's Preparedness Task Force stated that while we uniformly believe that our nation is significantly better prepared than it was on September 11, 2001, each of us has significant anecdotal data unique to our jurisdictions to support this premise. Yet we acknowledge that, while stakeholders across the nation working to develop preparedness-specific measurable outcomes for these efforts, a truly-defined, measurable preparedness system continues to elude the nation.

The Balanced Outcomes Framework is an iteration of the BSC as proposed by Kaplan and Norton; it brings perspective to the complexity of the homeland security enterprise. The framework attempts to balance inputs and processes with outputs and impacts. The balanced outcomes framework is based on the questions: Are we performing the mission, are we prepared, and are we providing stakeholder value? The



researcher has found that there are quantitative preparedness efforts, those whose performance we can measure to determine if the enterprise is doing things right.

### **Summary**

The new National Preparedness Goal established in the Presidential Policy Directive 8 identifies resilience of our communities as the vision. It states that, “our National Preparedness Goal is a secure and resilient nation that has created that has to be for the organized commitment of the whole community, in the shortest possible time and under all conditions, to successfully prevent, protect, mitigate, respond, or recover from the threats that pose the greatest risk to the nation (2011, p.1).” The National Preparedness Goal, the inherent core capabilities, the National Preparedness System, and the THIRA do not measure preparedness; they outline the “right things to do” to achieve preparedness. There is no scorecard that will deliver this.

FEMA will continue to explore ways to assess the value of grant funds on state and local preparedness capabilities, including *quantitative and qualitative* measures (GAO, 2010, p. 25). In the absence of an all-inclusive quantitative system of measurement, a qualitative, predictive model for operational success is called for. Using an outcomes-focused framework to predict the performance of the emergency management system will bridge the gap in preparedness assessment and support continuous improvement toward the National Preparedness Goal.



## **VI. CASE STUDY**

In this section, the research will explore the utility of the synthesized Outcomes-Balanced Framework by drawing a direct comparison to the latest Presidential Policy Directive 8 (2011) on national preparedness. The case study will first look at the historical provisions of national preparedness starting in the Bush Administration and then transition to the Obama Administration. The shortfalls of a top-down approach to national preparedness will be outlined, and the lack of connection between the provisions of HSPD-8 and PPD-8 will become apparent. Furthermore, this section will directly compare the current policy and the proposed framework, comparing and contrasting the key provisions found in each. Specifically, it will look at the goal of preparedness; capabilities identified; risk assessment and the resulting requirements determined; sustainment of the emergency management/homeland security effort; and the preparedness vision.

### **A. CASE STUDY—PRESIDENTIAL POLICY DIRECTIVE 8**

#### **1. History and Overview of PPD-8**

With a renewed focus on strengthening the security, preparedness, and resilience of the Nation, the Obama Administration has revised HSPD 8 to the Presidential Policy Directive 8 (PPD-8). The new directive established an NPG, which identifies *core capabilities* [emphasis added] that address specific types of incidents that pose the greatest risk to the nation (FEMA, 2011, p. 8). The NPG calls for a secure and resilient Nation that has created the capacity for the organized commitment of the whole community, in the shortest possible time under all conditions, to successfully prevent, protect, mitigate, respond, or recover from the these major disasters (FEMA, 2011, p. 1).

In the aftermath of 9/11, the federal government—through DHS—provided compelling need for developing emergency response preparedness and protecting the nation from disasters that impacts our communities. The Homeland Security Presidential Directive (HSPD) 5 policy directs the Secretary of the DHS to provide assistance to state and local governments to develop all-hazards plans and capabilities (HSPD-5, 2003, p.2).

To support HSPD-5, DHS developed the *Universal Task List* (UTL) containing 1600 unique preparedness and capability tasks that support the *Target Capabilities List* (TCL). The TCL contains 37 core competencies designed as a guide for preparedness for a broad range of terrorism attacks and all-hazards response events (TCL, 2007, p. iii). These two documents form the basis for assessing emergency response preparedness and developing mission outcomes at all levels of government (TCL, 2007, p. 1).

Seven National Preparedness Goals emerged from HSPD-8 that are essential for emergency response and management of disasters. In January 2008 the DHS released the National Response Framework (NRF), the successor to the National Response Plan (NRP). The NRF establishes a comprehensive, national, all-hazards approach to domestic incident response, and incorporated many NRP elements and along with lessons learned from the original plan. The new NRF provides guidance for the integration of community, state, tribal, and federal response efforts (NPD, 2007). Starting with the 2007 National Strategy for Homeland Security, resilience has become a focus for preparedness, and the NRF forms the basis and impetus for the development of resilience as an outcome; however, the definition was lacking. The 2007 National Preparedness Directorate (NPD) was established to oversee coordination and development of strategies necessary to provide a comprehensive cycle of planning and preparedness for all-hazards. As part of this mission, NPD developed the NPG outlining four critical elements of the core preparedness vision; specifically, the planning scenarios aimed at high-consequence events.

Like the HSPD-8, the PPD-8 addresses national preparedness and sets a National Preparedness Goal that establishes a vision, capabilities, and priorities. It also compares to HSPD-8 in that it is based on capabilities that strengthen the nation's security and resilience and the preparation for high consequence emergencies and disasters. PPD-8 places emphasis on the shared responsibility for preparedness and the development of the all five mission areas— prevention, protection, mitigation, response, and recovery—beyond the National Response Framework. PPD-8 also develops a National Preparedness System, which outlines a system to identify and deliver specific preparedness needs and sustainment based on risks identified in the THIRA process.

## **2. PPD-8 Performance Shortfalls**

In March 2011, President Barack Obama issued the Presidential Policy Directive 8 (PPD-8), refocusing our national preparedness. While similar in many ways to its predecessor, the Homeland Security Presidential Directive 8 (HSPD-8), PPD-8 brought in a heavier emphasis on identifying and managing risk with a vision of creating a resilient nation. Like HSPD-8, the PPD-8 focused on capabilities—the slightly upgraded 31 “core capabilities” as compared with the earlier 37 target capabilities. The PPD-8 outlined a system for national preparedness, called the National Preparedness System (NPS), which attempts to provide guidance where it had lacked standardization before. The NPS considers local and statewide differences in risk and capability, rather than a one-size-fits-all preparedness methodology. The NPS provides a unique system and case study to measure future national preparedness models. The PPD-8 identifies the necessary performance objectives; however, it has yet to develop the metrics for assessing performance. Capabilities-based planning, which started in the military, served DHS well in the early years following 9/11; however, a method is necessary to put the capabilities together in resolving the consequences of a disaster. The literature reviewed provides a foundation for the understanding the difficulty answering the nation’s preparedness questions about how well prepared the nation is.

In an effort to gauge progress, six evaluation efforts have been identified by DHS as keys to the assessment of preparedness—the State Preparedness Reporting (SPR) system, the National Incident Management System Compliance Assistance Support Tool (NIMSCAST), the Grants Reporting Tool (GRT), the Logistics Capability Assessment Tool (LCAT), the Gap Analysis Program (GAP), and the Cost-to-Capability (C2C) pilot program (GAO, 2010, p. 9). Each of current evaluation efforts is based on self assessment, leading to inconsistent results. FEMA concentrated efforts on the Comprehensive Assessment System (CAS) as a mechanism for capabilities assessment. It is based on the five-step process of defining, collecting, analyzing, reporting, and improving preparedness data (GAO, 2010, p. 27). The CAS was designed to effectively assess prevention, response, and recovery capabilities, eliminate redundant data calls, reduce the burden on respondents, and ensures the collection of meaningful data to guide policy and resource allocation decisions (FEMA, 2010d). To date, the CAS has not been

implemented due to the release of PPD-8, and questions continue about how to collect the right information without placing undue burden on the states (OIG, 2008, p. 10).

The latest assessment system resulting from PPD-8 is the THIRA; it provides a snapshot of preparedness based on a sampling of emergency events specific to states. While the THIRA represents the first initiative by FEMA to assess risk by individual state, it gave a narrow window of time to perform a proper risk assessment and gave little in the way of guidance. As with the previous attempts at creating an assessment system, the THIRA will create inconsistencies between states and regions and will lack the meaningful results Congress is seeking. Furthermore, many initiatives that support security and resilience go unaccounted for, as well as the development of human capital.

## **B. COMPARISON OF THE FRAMEWORK MODEL TO PRESIDENTIAL POLICY DIRECTIVE 8**

This thesis attempts to draw such an analogy between the PPD-8 and an Outcomes-Balanced Framework (OBF). The goal is to demonstrate the utility of the proposed model and compare it to the current national system outlined in PPD-8. Both models are in agreement that the traditional preparedness method—capabilities-based planning—requires an evolution to strategy and vision-centric methodology; however, each has differing avenues to achieve that end state. While it may be somewhat premature to judge the effectiveness of the tenets of PPD-8, there is considerable value in drawing similarities and differences between the national model and the proposed model for achieving national preparedness. There are five specific areas of comparison that will be noted as they relate to preparedness—a preparedness goal, a capabilities development process, a risk/requirements assessment, a sustainment system, and a strategic vision for national preparedness.

### **1. Preparedness Goal**

The research has minimal argument with the National Preparedness Goal, in that it identifies the issues that must be addressed: risk, capability, and strategy. The whole community approach is very similar to the OBF development of the holistic approach. It is very evident today that resources operate much more effectively when there is central

coordination than they do working independently. The culture of most Americans is to help your neighbor when calamity befalls them; it is the basis of many mutual aid agreements. When disaster strikes, an all hands approach is imperative and necessary—volunteers and the private sector become a force multiplier for emergency management.

## **2. Capabilities**

PPD-8 identified 31 core capabilities and HSPD-8 defined 37 target capabilities and the universal task list that provided definition to achieve the 37 capabilities. Most of the capabilities in both policies are similar, but several core capabilities (i.e., cyber security, situational assessment, forensics, and attribution) have no cross-walk to the target capabilities. Rather than develop an entirely different list, the OBF's preferred approach would have been to modify and connect the existing target capabilities and then revise the critical task list. What is missing in both lists is how these capabilities work in concert during known disasters and known players. A combination of tasks and competencies should be developed for known response groups (e.g., during a building collapse). The goals should be to develop capabilities that coordinate fire service, medical teams, and law enforcement first responders with complementary capabilities from the sustaining National Guard force packages.

## **3. Risk/Requirements Assessment**

Since 9/11, the nation has been identifying and assessing risk. Many risk calculations have been developed to allocate homeland security funding. Certain areas, (e.g., the Urban Area Security Initiative) were provided with special funding to address the risk associated with densely populated and critical node locations. The THIRA suggested a starting point for risk assessment at the state and local levels rather than develop an entirely different list. It should have been addressed in the years when funding homeland security first began to ramp up. Capability development and input allocation is also based on risk or known response needs in the OBF.

## **4. Sustainment System**

The management of an organization includes a system for continuous improvement. PPD-8 utilizes the National Preparedness System that consists of six-step

process: identify and assess risk, estimate the capability requirements, build and sustain capabilities, plan to deliver capabilities, validate capabilities, and review and update as the environment changes. The OBF utilizes risk assessment similar to the THIRA, but differs in the subsequent steps. From the risk assessment, strategic mapping and alignment are used to identify focus areas and establish performance requirements; capabilities would be developed based on historic, state-specific needs, best practices, and a gap analysis. A continuous improvement system would create an ongoing process of evaluating performance measures for inputs, processes, outputs, and impacts. The continuous performance assessment system would monitor and find balance between doing things right (quantitative measures) and doing the right thing (qualitative measures). Performance measurement for outcomes is an ongoing process rather than an annual event, as with the State Preparedness System.

## **5. Strategic Vision for Preparedness**

The roles of management and leadership are not addressed in depth in PPD-8, and it is integral to the OBF. Emergency management maintains the current level of performance and coordination; and homeland security leadership develops people and owns the future. The organization that operates the emergency management agency establishes a lofty mission for the agency, although it is the people in the agency who fulfill the mission and anticipate the needs of the parent organization and its stakeholders. It takes individuals with foresight to anticipate these needs and deliver them before the need arises; it takes initiatives (i.e., FEMA's Strategic Foresight Initiative, FEMA Think Tank, and a number of executive level and expert panel discussions) to provide the vision an emergency management organization requires. Visioning provides a window into the flexibility and adaptability that is a necessary ingredient of the resilience outcome and the decision complexity the future has to offer. Having a strategy (a methodical approach) to not only develop the emergency management system today but to align it with a preferred tomorrow is central to the OBF—the PPD-8 only offers a national strategy with little connection to local or state-level concerns.

### **Summary**

In today's economy, a preparedness system must be sustained at the local and state levels. Barring another major attack, federal funding will never return to 2005 levels. The national level goal, outlined in PPD-8, continues to utilize a top-down approach to national preparedness; while OBF organizes some of the key components of PPD-8 and combines them with the known successes found in emergency management into a model. The hallmark of the OBF is that it departs from the historical approach of national preparedness and uniquely focuses on state-specific risk, goal-setting, and outcomes delivery. The strategy identified in the model is not a listing of all areas that are in need of attention to meet national preparedness. Rather, it is a focus of resources and the development of initiatives that are connected toward achieving the outcomes that support the resiliency of a state's communities and economy, as well as delivering value to its stakeholders.

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## VII. CONCLUSIONS

The research muses the question: With the emphasis by Congress on homeland security performance, what benchmarks currently exist in emergency management for measuring outputs and impacts that indicate the level of preparedness of the nation? Moreover, is it possible to provide a single, one-size-fits-all set of metrics to place a value on outcomes? Thus, far, the research does not yield a quantifiable method to measure our preparedness efforts. The quantitative methods that exist are limited to inventorying personnel through credentialing, cataloging resources through NIMS typing, and observing capability through exercises and after-action reports. Checklists and inventorying mechanisms are valuable for tabulating the *inputs* needed to respond to particular events, but they will not necessarily capture whether the preparedness system has the ability to use those inputs to achieve the desired response *outputs* when an event actually occurs (Jackson, 2008, p. 8).

With limited funding and uncertain future sustainability, a state's emergency management strategy must be built upon networks of resources that improve the capacity to respond, absorb, adapt, and recover from emergencies or disasters. Given that networked capabilities provide resources within a prescribed mission space and that performance is delivered by a series of capabilities in action, positive results are achieved when mission, capability, and performance are focused during the disaster. Combining focused networks and leadership together will result in coordinated, effective, and efficient delivery of performance, where the true measurement of preparedness is observed both quantitatively and qualitatively.

The question still exists: "How does one measure the actual outcomes of our disaster response and recovery programs" (Fugate, 2009. p. 2). The term emerging in today's lexicon describing the preferred outcome is resilience. Resilience includes the quantitative capabilities to protect, respond, and mitigate, and the qualitative principles to resist, absorb, recover from, or successfully adapt to adversity or a change in conditions (HS Risk Lexicon, 2010, p. 23). The time it takes to arrive at the "new normal" is truly the measure of resilience. Furthermore, the most local level at which the response and recovery resources arrive (i.e., the local, tribal, state, or federal level) is where resilience

is most quickly achieved. Has the emergency management system addressed the critical strands in a holistic emergency management helix at all levels of entry? That is, has the system addressed:

- Capacity sufficiently adaptable to meet a state's risk environment
- Prevention and mitigation before an event
- Sufficiency of operational capability, capacity, and readiness to respond
- Speed of protection measures during an event
- Interoperability of operational resources to resolve the event

These preferred outcomes delivered by networked resources support resilience quantitatively by the reduction in the loss of life and destruction of property, and by maintaining political, governmental, and infrastructure systems. It goes further to maintain the quality of life concerns of a stricken community through the protection of social and psychological structures, by minimizing the negative economic and environmental impact of the disaster, and by preserving a community's heritage. It takes both management and coordination—and leadership and cooperation—to meet our nation's future challenges.

Many businesses and some homeland security professionals have seen the positive effect of balancing all focus areas of an organization, but can the balanced scorecard model be modified to improve state government's ability to measure and improve the effectiveness of emergency management investments? How would it compare to the Presidential Policy Directive 8? The research has shown that it can be modified to account for the outputs of an emergency management agency, and at the same time, develop the relationships that are important during times of crisis. The mission of emergency management is not clearly defined, but the stakeholders clearly know when it is met. There are indicators of success that, when combined with leadership, provide the basis for the outcomes that the NPG is identifying. The PPD-8 identifies some of these same indicators of success in the core capabilities. However, more emphasis should be placed on forward-leaning leadership and strategy for the homeland security enterprise that is identified by the Outcomes-Balanced Framework.

What performance outcomes should emergency management striving for, and what is a preferred strategy for achieving it? If the national goal is to identify the core capabilities that address specific types of incidents that pose the greatest risk to the nation, then the focus should be centered on capabilities that have historically proven successful. By observing the successes of these regional networks a pattern emerges. When applied elsewhere, it could serve as a roadmap for emergency management preparedness—these are smart practices that leadership has nurtured and, emerge during chaotic events. The outcomes that emergency management must support are those that address threats to the security and the quality of life in our communities. Knowing that a risk elimination strategy is both highly unachievable and potentially threatening to the very quality of life the nation is protecting, the strategy should be to contain and minimize the consequences of a disaster, as well as shorten the duration of the disturbance. A strategy that promotes and supports preparedness while also developing the capability to address the threats to our communities must be embraced.

The research also recognizes that a one-size-fits-all approach will be destined to considerable scrutiny—what works in an urban, high-risk area will not work in rural, capability-reduced areas. Emergency management’s role is to focus its coordination efforts, base its efforts on a risk-informed analysis, and consistently communicate the strategy to its stakeholders to meet the challenges and find a method to assess its progress. A more appropriate assessment method is found within the Outcomes-Balanced Framework model; it supports outcomes in the emergency management mission space and aligns strategy within the overall outcomes of an operationally-ready, secure, and resilient nation.

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